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                  to 50,000
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 NEWS 13
          JAN 22
                 CA/CAplus enhanced with patent applications from India
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         JAN 29
                 PHAR reloaded with new search and display fields
 NEWS 15
         JAN 29
                 CAS Registry Number crossover limit increased to 300,000 in
                  multiple databases
 NEWS 16
         FEB 15
                 PATDPASPC enhanced with Drug Approval numbers
 NEWS 17
         FEB 15
                 RUSSIAPAT enhanced with pre-1994 records
 NEWS 18
         FEB 23
                 KOREAPAT enhanced with IPC 8 features and functionality
NEWS 19
         FEB 26 MEDLINE reloaded with enhancements
 NEWS 20 FEB 26 EMBASE enhanced with Clinical Trial Number field
 NEWS 21 FEB 26 TOXCENTER enhanced with reloaded MEDLINE
 NEWS 22 FEB 26 IFICDB/IFIPAT/IFIUDB reloaded with enhancements
 NEWS 23 FEB 26 CAS Registry Number crossover limit increased from 10,000
                  to 300,000 in multiple databases
                 WPIDS/WPIX enhanced with new FRAGHITSTR display format
 NEWS 24 MAR 15
 NEWS 25 MAR 16 CASREACT coverage extended
 NEWS 26 MAR 20 MARPAT now updated daily
 NEWS 27 MAR 22 LWPI reloaded
 NEWS 28 MAR 30 RDISCLOSURE reloaded with enhancements
 NEWS 29 MAR 30 INPADOCDB will replace INPADOC on STN
 NEWS EXPRESS NOVEMBER 10 CURRENT WINDOWS VERSION IS V8.01c, CURRENT
              MACINTOSH VERSION IS V6.0c(ENG) AND V6.0Jc(JP),
              AND CURRENT DISCOVER FILE IS DATED 25 SEPTEMBER 2006.
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100.0% PROCESSED 710 IT

710 ITERATIONS

465 ANSWERS

SEARCH TIME: 00.00.01

465 SEA SSS FUL L1

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FULL ESTIMATED COST

SINCE FILE TOTAL ENTRY SESSION 172.10 172.52

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=> S L2

L3 212 L2

=> D L3 IBIB ABS HITSTR 1-212

L3 ANSWER 1 OF 212 CAPLUS COPYRIGHT 2007 ACS on STN

ACCESSION NUMBER:

2007:131519 CAPLUS

DOCUMENT NUMBER:

146:228705

TITLE:

First catalytic reductive coupling of 1,3-diynes to carbonyl partners: A new regio- and enantioselective C-C bond forming hydrogenation. [Erratum to document

cited in CA139:291814]

AUTHOR(S):

Huddleston, Ryan R.; Jang, Hye-Young; Krische, Michael

J.

CORPORATE SOURCE:

Department of Chemistry and Biochemistry, University

of Texas at Austin, Austin, TX, 78712, USA

SOURCE:

Journal of the American Chemical Society (2007),

129(7), 2194

CODEN: JACSAT; ISSN: 0002-7863

PUBLISHER:

American Chemical Society

DOCUMENT TYPE:

Journal

LANGUAGE:

English

AB Page 11489, Table 3 is incorrect as the regioisomeric ratio of 9b:iso-9b should read "1:>99" instead of ">99:1". Coupling takes place proximal to the tert-Bu group. Acetylenic carbon atoms bearing a Ph moiety possess a characteristic C NMR chemical shift at δ 122-123. The structure of the major regioisomer has been reassigned on the basis of C NMR data.

IT 185913-97-7

RL: CAT (Catalyst use); USES (Uses)

(regioselective and enantioselective catalytic reductive condensation of 1,3-diynes with glyoxals under the conditions of catalytic hydrogenation (Erratum))

CN Phosphine, [(1R)-5,5'-dichloro-6,6'-dimethoxy[1,1'-biphenyl]-2,2'-diyl]bis[diphenyl- (9CI) (CA INDEX NAME)

L3 ANSWER 2 OF 212 CAPLUS COPYRIGHT 2007 ACS on STN

ACCESSION NUMBER:

2007:112136 CAPLUS

TITLE:

Preparation of enantiomerically pure anti-1,3-diols by sequential ruthenium-mediated asymmetric hydrogenation

reactions

AUTHOR(S):

Labeeuw, Olivier; Bourg, Jean-Baptiste; Phansavath,

Phannarath; Genet, Jean-Pierre

CORPORATE SOURCE:

Laboratoire de Synthese Selective Organique et Produits Naturels, ENSCP, UMR CNRS 7573, Paris,

75231/05, Fr.

SOURCE:

ARKIVOC (Gainesville, FL, United States) (2007), (10),

94-106

CODEN: AGFUAR

URL: http://www.arkat-usa.org/ARKIVOC/JOURNAL_CONTENT/manuscripts/2007/AK-2204GP%20as%20published%20mainmanu

script.pdf

PUBLISHER:

Arkat USA Inc.

DOCUMENT TYPE:

Journal; (online computer file)

LANGUAGE:

English

AB A ruthenium-mediated sequential approach to anti-1,3-diols is described. A series of enantiomerically enriched 1,3-diols has been synthesized from β -keto esters using ruthenium-mediated asym. hydrogenation followed by diastereoselective hydrogenation of the resulting β -hydroxy ketones, obtained via the corresponding Weinreb amides. Using this sequence, diversely substituted anti-1,3-diols were obtained in good yields with a very high level of enantio- and diastereoselectivity (ee and de up to 99%).

IT 133545-16-1, (R)-MeO-BIPHEP

RL: CAT (Catalyst use); USES (Uses)

(anti-1,3-diol enantiomers via sequential ruthenium complex catalyzed asym. hydrogenations of oxo esters)

RN 133545-16-1 CAPLUS

CN Phosphine, 1,1'-[(1R)-6,6'-dimethoxy[1,1'-biphenyl]-2,2'-diyl]bis[1,1-diphenyl- (CA INDEX NAME)

REFERENCE COUNT: 60 THERE ARE 60 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L3 ANSWER 3 OF 212 CAPLUS COPYRIGHT 2007 ACS on STN

ACCESSION NUMBER: 2007:82872 CAPLUS

DOCUMENT NUMBER: 146:213812

TITLE: Method for selectively catalyzing hydrogenated ketone

by chiral diphosphorous complex of Pd

INVENTOR(S): Zhou, Yonggui; Wang, Youqing; Lu, Shengmei

PATENT ASSIGNEE(S): Dalian Institute of Chemical Physics, Chinese Academy

of Sciences, Peop. Rep. China

SOURCE: Faming Zhuanli Shenqing Gongkai Shuomingshu, 9pp.

CODEN: CNXXEV

DOCUMENT TYPE: Patent LANGUAGE: Chinese

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
CN 1899695 PRIORITY APPLN. INFO.:	A	20070124	CN 2005-10012241 CN 2005-10012241	20050721 20050721

AB The title chiral diphosphorous complex of Pd is synthesized by mixing Pd precursor and chiral diphosphorous ligand, stirring in acetone at room temperature, and vacuum-concentrating The catalysis of hydrogenated ketone can be

performed at $25-75^{\circ}\text{C}$ and 3-70atm with 2,2,2-trifluoro ethanol as the solvent. $\alpha-\text{o-benzamide}$ substituted ketone can be 92% asym. induced by the catalyst. The method has the advantages of simple operation, wide raw material resources, high selectivity and high product yield, and is environment-friendly.

IT 133577-92-1, 6,6'-Dimethoxybiphenyl-2,2'-diyl-

bis(diphenylphosphine)

RL: CAT (Catalyst use); RCT (Reactant); RACT (Reactant or reagent); USES (Uses)

(method for selectively catalytic hydrogenation of ketone by chiral diphosphorous complex of palladium)

RN 133577-92-1 CAPLUS

CN Phosphine, (6,6'-dimethoxy[1,1'-biphenyl]-2,2'-diyl)bis[diphenyl- (9CI) (CA INDEX NAME)

L3 ANSWER 4 OF 212 CAPLUS COPYRIGHT 2007 ACS on STN

ACCESSION NUMBER:

2007:64843 CAPLUS

DOCUMENT NUMBER:

146:184148

TITLE:

 α -Hydroxy Esters via Enantioselective

Hydrogen-Mediated C-C Coupling: Regiocontrolled

Reactions of Silyl-Substituted 1,3-Diynes. [Erratum to

document cited in CA145:335661]

AUTHOR(S):

Cho, Chang-Woo; Krische, Michael J.

CORPORATE SOURCE: Department of Chemistry and Biochemistry, University

of Texas at Austin, Austin, TX, 78712, USA

SOURCE: Organic Letters (2007), 9(4), 735

CODEN: ORLEF7; ISSN: 1523-7060

PUBLISHER:

American Chemical Society

DOCUMENT TYPE:

Journal

LANGUAGE:

English

AB On page 3874, in entry 12 of Table 1, the regioisomeric ratio of 3b:3c is 1:>99, not >99:1. Coupling takes place proximal to the tert-Bu group. Acetylenic carbon atoms bearing a Ph moiety possess a characteristic C NMR

chemical shift at δ 122-123. The structure of the major regionsomer

has been reassigned on the basis of C NMR data.

IT 185913-97-7, (R)-Cl, MeO-BIPHEP

RL: CAT (Catalyst use); USES (Uses)

(preparation of chiral α -hydroxy- β , γ -enynoates by

rhodium-catalyzed asym. reductive regioselective coupling of 1,3-diynes

with α -oxo esters and dihydrogen (Erratum))

RN 185913-97-7 CAPLUS

CN Phosphine, [(1R)-5,5'-dichloro-6,6'-dimethoxy[1,1'-biphenyl]-2,2'-diyl]bis[diphenyl- (9CI) (CA INDEX NAME)

L3 ANSWER 5 OF 212 CAPLUS COPYRIGHT 2007 ACS on STN

ACCESSION NUMBER:

2007:61774 CAPLUS

DOCUMENT NUMBER:

146:162920

TITLE:

Copper(II) catalyzed addition of acids, alcohols,

amines, and thiols to alkenes.

INVENTOR(S):

Hii, King Kuok

PATENT ASSIGNEE(S):

IC Innovations Limited, UK

SOURCE:

PCT Int. Appl., 41pp.

CODEN: PIXXD2

DOCUMENT TYPE:

Patent English

LANGUAGE: FAMILY ACC. NUM. COUNT:

PATENT INFORMATION:

	PATENT NO.					KIND DATE					APPL	ICAT:						
	WO	2007	0070	- 84		A2	_	2007	0118	1	WO 2						0060	
	WO	2007	0070	84		A 3		2007	0301									
		W:	ΑE,	AG,	AL,	AM,	ΑT,	ΑU,	ΑZ,	BA,	BB,	BG,	BR,	BW,	BY,	BZ,	CA,	CH,
			CN,	co,	CR,	CU,	CZ,	DE,	DK,	DM,	DZ,	EC,	EE,	EG,	ES,	FI,	GB,	GD,
			GE,	GH,	GM,	HN,	HR,	HU,	ID,	IL,	IN,	IS,	JP,	ΚE,	KG,	KM,	KN,	KP,
			KR,	KZ,	LA,	LC,	LK,	LR,	LS,	LT,	LU,	LV,	LY,	MA,	MD,	MG,	MK,	MN,
			MW,	MX,	MZ,	NA,	NG,	NI,	NO,	NZ,	OM,	PG,	PH,	PL,	PT,	RO,	RS,	RU,
			SC,	SD,	SE,	SG,	SK,	SL,	SM,	SY,	TJ,	TM,	TN,	TR,	TT,	TZ,	UA,	ŬĠ,
			US,	UZ,	VC,	VN,	ZA,	ZM,	ZW									
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			IS,	IT,	LT,	LU,	LV,	MC,	NL,	PL,	PT,	RO,	SE,	SI,	SK,	TR,	BF,	ВJ,
			CF,	CG,	CI,	CM,	GΑ,	GN,	GQ,	GW,	ML,	MR,	ΝE,	SN,	TD,	TG,	BW,	GH,
			GM,	ΚE,	LS,	MW,	ΜZ,	NA,	SD,	SL,	SZ,	TZ,	UG,	ZM,	ZW,	AM,	ΑZ,	BY,
			KG,	ΚZ,	MD,	RU,	ТJ,	TM								•		
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										1	GB 2	006-	9666		1	A. 2	0060	515
ΑB	AB A process for the addition of a nucleophile (an acid, alc., amine, or thic to an alkene in the presence of a Cu(II) catalyst, was claimed. Thus,																	

iol) ΑB reaction of 4-methoxybenzoic acid with norbornene in dioxane in the presence of Cu(II) triflate at 80° to give 95% exo norbornyl ester.

133577-92-1, MeO-Biphep 377773-83-6, Cl-MeO-Biphep ΙT

RL: CAT (Catalyst use); USES (Uses)

(copper(II) catalyzed addition of acids, alcs., amines, and thiols to alkenes)

133577-92-1 CAPLUS RN

Phosphine, (6,6'-dimethoxy[1,1'-biphenyl]-2,2'-diyl)bis[diphenyl- (9CI) CN(CA INDEX NAME)

RN 377773-83-6 CAPLUS

Phosphine, (5,5'-dichloro-6,6'-dimethoxy[1,1'-biphenyl]-2,2'diyl)bis[diphenyl- (9CI) (CA INDEX NAME)

L3 ANSWER 6 OF 212 CAPLUS COPYRIGHT 2007 ACS on STN

ACCESSION NUMBER: 2007:52438 CAPLUS

TITLE: Enantioselective Synthesis of a Key Intermediate in a

New Process for Orlistat Using Asymmetric

Hydrogenation and a Grignard Reagent Promoted Lactone

Cyclization

AUTHOR(S): Schwindt, Mark A.; Fleming, Michael P.; Han,

Yeun-Kwei; Hodges, Lewis M.; Johnston, David A.; Micheli, Roger P.; Roberts, Chris R.; Snyder, Roger;

Topping, Robert J.; Puentener, Kurt; Scalone,

Michelangelo

CORPORATE SOURCE: Boulder Technology Center, Roche Colorado Corporation,

Boulder, CO, 80301, USA

SOURCE: Organic Process Research & Development ACS ASAP

CODEN: OPRDFK; ISSN: 1083-6160

PUBLISHER: American Chemical Society

DOCUMENT TYPE: Journal LANGUAGE: English

GΙ

AB A new enantioselective synthesis of Orlistat suitable for large-scale preparation is described. Therein, the first isolated key intermediate (R)-3-hexyl-5,6-dihydro-4-hydroxy-6-undecyl-2H-pyran-2-one (I) was prepared via asym. hydrogenation of Me 3-oxotetradecanoate to give (S)-3-hydroxytetradecanoate, and subsequent acylation with 2-bromooctanoyl halide (bromide/chloride) to give (R)-3-[(2-bromo-1-oxooctyl)oxy]-tetradecanoic acid Me ester which underwent Me3CMgCl promoted cyclization to give the single enantiomer I. I, which was previously published as a mixture of enantiomers, was carried on through several steps to Orlistat without any process changes.

IT 133545-16-1

RL: CAT (Catalyst use); USES (Uses)

(Ru/biphenyldiylbis(diphenylphosphine) complex-catalyzed asym. hydrogenation of an oxotetradecanoate in the enantioselective preparation of hexyldihydro(hydroxy)undecylpyranone, an intermediate in process for Orlistat manufacture)

RN 133545-16-1 CAPLUS

CN Phosphine, 1,1'-[(1R)-6,6'-dimethoxy[1,1'-biphenyl]-2,2'-diyl]bis[1,1-diphenyl- (CA INDEX NAME)

73 THERE ARE 73 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L3 ANSWER 7 OF 212 CAPLUS COPYRIGHT 2007 ACS on STN

ACCESSION NUMBER:

2007:26172 CAPLUS

DOCUMENT NUMBER:

146:274176

TITLE:

Gold(I)-catalyzed intramolecular enantioselective

hydroalkoxylation of allenes

Zhang, Zhibin; Widenhoefer, Ross A.

CORPORATE SOURCE:

P.M. Gross Chemical Laboratory, Duke University,

Durham, NC, 27708-0346, USA

SOURCE:

AUTHOR(S):

Angewandte Chemie, International Edition (2007),

46(1+2), 283-285

CODEN: ACIEF5; ISSN: 1433-7851

PUBLISHER: DOCUMENT TYPE:

Wiley-VCH Verlag GmbH & Co. KGaA

DOCUMENT I

Journal

LANGUAGE:

English

GI

RN

Turned by gold: The gold(I)-catalyzed enantioselective hydroalkoxylation of hydroxyallenes proceeded rapidly to give useful chiral all oxygen heterocycles, e.g., I, in high yields and with high stereoselectivity. The procedure was also effective for the cyclization of γ -hydroxyallenes that possess an axially chiral allenyl moiety and for the cyclization of δ -hydroxyallenes.

RL: CAT (Catalyst use); USES (Uses)

(stereoselective preparation of vinyltetrahydrofurans/pyrans via gold-catalyzed intramol. enantioselective hydroalkoxylation of hydroxyallenes employing chiral phosphine ligands)

926902-23-0 CAPLUS

CN INDEX NAME NOT YET ASSIGNED

Ι

THERE ARE 4 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

CAPLUS COPYRIGHT 2007 ACS on STN L3 ANSWER 8 OF 212

ACCESSION NUMBER:

2006:1305485 CAPLUS

DOCUMENT NUMBER:

146:184793

TITLE:

Copolymerization of ethene and carbon monoxide with

(diphosphine) nickel catalysts

AUTHOR(S):

Leone, Antonella; Consiglio, Giambattista

CORPORATE SOURCE:

Eidgenossische Technische Hochschule, Institut fur

Chemie und Bioingenieurwissenschaften, Zurich,

CH-8093, Switz.

SOURCE:

Helvetica Chimica Acta (2006), 89(11), 2720-2727

CODEN: HCACAV; ISSN: 0018-019X

PUBLISHER:

Verlag Helvetica Chimica Acta

DOCUMENT TYPE:

Journal

LANGUAGE: English

This work presents the results of the ethene-CO copolymn. with in situ generated catalysts based on atropisomeric 1,4-diphosphine and nickel(II). The influence of the reaction conditions and the NMR characterization of the copolymers are described.

IT 133545-17-2

RL: CAT (Catalyst use); USES (Uses)

(ligand, polymerization catalyst; polymerization of ethene and carbon monoxide with

(diphosphine)nickel catalysts)

133545-17-2 CAPLUS RN

Phosphine, 1,1'-[(1S)-6,6'-dimethoxy[1,1'-biphenyl]-2,2'-diyl]bis[1,1-CN diphenyl- (CA INDEX NAME)

REFERENCE COUNT:

THERE ARE 17 CITED REFERENCES AVAILABLE FOR THIS 17 RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

ANSWER 9 OF 212 CAPLUS COPYRIGHT 2007 ACS on STN

ACCESSION NUMBER:

2006:1267757 CAPLUS

DOCUMENT NUMBER:

146:162896

TITLE:

The asymmetric hydrogenation of 2-phenethylacrylic

acid as the key step for the enantioselective

synthesis of Citralis Nitrile

AUTHOR(S):

Scrivanti, Alberto; Bovo, Sara; Ciappa, Alessandra;

Matteoli, Ugo

CORPORATE SOURCE:

Dipartimento di Chimica, Dorsoduro, Universita di

Venezia, Venice, 30123, Italy

SOURCE:

Tetrahedron Letters (2006), 47(52), 9261-9265

CODEN: TELEAY; ISSN: 0040-4039

PUBLISHER:

Elsevier Ltd.

DOCUMENT TYPE:

Journal

English

LANGUAGE:

A catalytic approach to the enantioselective synthesis of Citralis Nitrile (3-methyl-5-phenylpentanenitrile, a citrus-type odorant) is described. The key step is the transition-metal catalyzed asym. hydrogenation of 2-phenethylacrylic acid. Among the different catalysts tested, the most efficient appears to be the one formed by combining in-situ [Ru(benzene)Cl2]2 with the atropisomeric diphosphine MeOBIPHEP, and Et3N, which allows us to obtain ≤98% ee under mild conditions. Very good results (>80% ee) have also been obtained using iridium cationic complexes in combination with a phosphinooxazoline ligand.

IT 133545-16-1

> RL: CAT (Catalyst use); USES (Uses) (enantioselective synthesis of Citralis Nitrile by asym. hydrogenation of phenethylacrylate)

RN 133545-16-1 CAPLUS

Phosphine, 1,1'-[(1R)-6,6'-dimethoxy[1,1'-biphenyl]-2,2'-diyl]bis[1,1-CN diphenyl- (CA INDEX NAME)

33 THERE ARE 33 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

ANSWER 10 OF 212 CAPLUS COPYRIGHT 2007 ACS on STN

ACCESSION NUMBER:

2006:1256216 CAPLUS

DOCUMENT NUMBER:

146:27973

TITLE:

Preparation of (S)-4-fluoromethyl-dihydro-furan-2-one

and its use in synthesis of pyrido[2,1-a]isoquinoline

derivatives

INVENTOR(S):

Abrecht, Stefan; Adam, Jean-Michel; Fettes, Alec; Foricher, Joseph; Lohri, Bruno; Mattei, Patrizio;

Moine, Gerard; Schmid, Rudolf; Zutter, Ulrich

PATENT ASSIGNEE(S):

SOURCE:

GI

F. Hoffmann-La Roche AG, Switz.

PCT Int. Appl., 55pp.

DOCUMENT TYPE:

CODEN: PIXXD2 Patent

LANGUAGE:

English

FAMILY ACC. NUM. COUNT:

PATENT INFORMATION:

PATENT 1	KIND DATE			APPLICATION NO.						DATE						
WO 2006	- 125728		A1	_	2006	1130	Ţ	WO 2	 006-1	EP62:	 291		20	0060	515	
W:	AE, A	G, AL,	AM,	AT,	AU,	ΑZ,	BA,	BB,	BG,	BR,	BW,	BY,	BZ,	CA,	CH,	
	CN, C	O, CR,	CU,	CZ,	DE,	DK,	DM,	DZ,	EC,	EE,	EG,	ES,	FI,	GB,	GD,	
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	CF, C	G, CI,	CM,	GA,	GN,	GQ,	GW,	ML,	MR,	NE,	SN,	TD,	TG,	BW,	GH,	
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 NH_2
 NH

This invention relates to a process of the preparation of the novel intermediate (S)-4-(fluoromethyl)dihydrofuran-2-one (I) and with its use for the manufacture of pyrido[2,1-a]isoquinoline derivs. II (R2, R3, R4 = H, halo, alkyl, alkoxy, alkenyl) which are useful for the treatment and/or prophylaxis of diseases which are associated with DPP IV.

IT 133545-17-2 145214-63-7 167709-31-1

362634-22-8

RL: CAT (Catalyst use); USES (Uses)

II

(preparation of (S)-4-(fluoromethyl) dihydrofuran-2-one as use in asym. synthesis of pyrido[2,1-a]isoquinoline derivs.)

RN 133545-17-2 CAPLUS

CN Phosphine, 1,1'-[(1S)-6,6'-dimethoxy[1,1'-biphenyl]-2,2'-diyl]bis[1,1-diphenyl- (CA INDEX NAME)

RN 145214-63-7 CAPLUS

CN Phosphine, 1,1'-[(1S)-6,6'-dimethoxy[1,1'-biphenyl]-2,2'-diyl]bis[di-2-thienyl- (CA INDEX NAME)

RN 167709-31-1 CAPLUS

CN Phosphine, 1,1'-[(1S)-6,6'-dimethoxy[1,1'-biphenyl]-2,2'-diyl]bis[1,1-bis[3,5-bis(1,1-dimethylethyl)phenyl]- (CA INDEX NAME)

PAGE 1-A

PAGE 2-A

RN 362634-22-8 CAPLUS

CN Phosphine, 1,1'-[(1S)-6,6'-dimethoxy[1,1'-biphenyl]-2,2'-diyl]bis[1,1-bis(3,5-dimethylphenyl)- (CA INDEX NAME)

THERE ARE 5 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

ANSWER 11 OF 212 CAPLUS COPYRIGHT 2007 ACS on STN

5

ACCESSION NUMBER:

2006:1250267 CAPLUS

DOCUMENT NUMBER:

146:162835

TITLE:

Copper(I)-catalyzed enantio- and diastereoselective

tandem reductive aldol reaction

AUTHOR(S):

Chuzel, Olivier; Deschamp, Julia; Chausteur,

Christophe; Riant, Olivier

CORPORATE SOURCE:

Unite de chimie organique et medicinale, Universite catholique de Louvain, Louvain-la-Neuve, 1348, Belg.

SOURCE:

Organic Letters (2006), 8(26), 5943-5946

CODEN: ORLEF7; ISSN: 1523-7060

PUBLISHER:

American Chemical Society

DOCUMENT TYPE:

Journal

English LANGUAGE: AB

An efficient method for the enantioselective tandem reductive aldol reaction of Me acrylate with aldehydes is described. By using a copper(I) precursor and a proper diphosphane ligand, high reactivities was reached. Taniaphos-based ligands lead to the highest enantioselectivities in the case of the major syn diastereoisomer.

133545-17-2 IT

> RL: CAT (Catalyst use); USES (Uses) (stereoselective preparation of β -hydroxy esters via asym. tandem reductive aldol reaction of aldehydes with acrylate in presence of silanes)

133545-17-2 CAPLUS RN

Phosphine, 1,1'-[(1S)-6,6'-dimethoxy[1,1'-biphenyl]-2,2'-diyl]bis[1,1-CN diphenyl- (CA INDEX NAME)

THERE ARE 34 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L3 ANSWER 12 OF 212 CAPLUS COPYRIGHT 2007 ACS on STN

ACCESSION NUMBER:

2006:1250252 CAPLUS

DOCUMENT NUMBER:

146:100215

TITLE:

Catalytic Carbonyl Z-Dienylation via Multicomponent Reductive Coupling of Acetylene to Aldehydes and

α-Ketoesters Mediated by Hydrogen: Carbonyl Insertion into Cationic Rhodacyclopentadienes

AUTHOR(S):

SOURCE:

CORPORATE SOURCE:

Kong, Jong Rock; Krische, Michael J.

Department of Chemistry and Biochemistry, University

of Texas at Austin, Austin, TX, 78712, USA

Journal of the American Chemical Society (2006),

128(50), 16040-16041

CODEN: JACSAT; ISSN: 0002-7863

PUBLISHER:

DOCUMENT TYPE:

American Chemical Society

LANGUAGE:

Journal

GT

MeO-CO
$$C\equiv CH$$
MeO-CO $C\equiv CH$ I

AB Exposure of aldehydes or α -ketoesters to equal vols. of acetylene and hydrogen gas at ambient temperature and pressure in the presence of cationic

rhodium catalysts provides products of carbonyl Z-butadienylation, which arise via multicomponent coupling of four mols.: two mols. of acetylene, a mol. of vicinal dicarbonyl compound, and a mol. of elemental hydrogen. The collective data suggest a catalytic mechanism involving carbonyl insertion into a cationic rhodacyclopentadiene intermediate derived via oxidative dimerization of acetylene. Hydrogenolytic cleavage of the resulting oxarhodacycloheptadiene via formal σ -bond metathesis provides the product of carbonyl addition and cationic rhodium(I) to close the catalytic cycle. Studies involving the hydrogenation of 1,6-diyne 14a (I) in the presence of α -ketoester 6a (II) corroborate the proposed catalytic mechanism. These multicomponent couplings represent the first use of acetylene gas, a basic chemical feedstock, in metal-catalyzed reductive C-C

bond formation.

IT 133545-16-1

RL: CAT (Catalyst use); USES (Uses)

(catalytic carbonyl Z-dienylation via multicomponent reductive coupling of acetylene to aldehydes and α -ketoesters mediated by hydrogen,

carbonyl insertion into cationic rhodacyclopentadienes)

RN 133545-16-1 CAPLUS

CN Phosphine, 1,1'-[(1R)-6,6'-dimethoxy[1,1'-biphenyl]-2,2'-diyl]bis[1,1-diphenyl- (CA INDEX NAME)

REFERENCE COUNT:

44 THERE ARE 44 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L3 ANSWER 13 OF 212 CAPLUS COPYRIGHT 2007 ACS on STN

ACCESSION NUMBER:

2006:1237926 CAPLUS

DOCUMENT NUMBER:

146:142450

TITLE:

 α,β -Unsaturated δ -lactones from

copper-catalyzed asymmetric vinylogous Mukaiyama

reactions of aldehydes: scope and mechanistic insights

AUTHOR(S):

Bazan-Tejeda, Belen; Bluet, Guillaume; Broustal,

Garance; Campagne, Jean-Marc

CORPORATE SOURCE:

Institut de Chimie des Substances Naturelles, CNRS,

Gif-sur-Yvette, 91198, Fr.

SOURCE:

Chemistry--A European Journal (2006), 12(32),

8358-8366

CODEN: CEUJED; ISSN: 0947-6539

PUBLISHER:

Wiley-VCH Verlag GmbH & Co. KGaA

DOCUMENT TYPE:

Journal

LANGUAGE:

English

OTHER SOURCE(S):

CASREACT 146:142450

GI

$$\mathbb{R}^{1}$$
 \mathbb{R}^{2}
 \mathbb{R}^{2}

AB A direct regio-, diastereo-, and enantiocontrolled access to

 α , β -unsatd. δ -lactones I [R1 = Me2CH, n-Pr, Ph, 2,3-(MeO)2C6H3, 1-naphthyl, 2-furyl, PhCH:CH; R2 = H, Me] based on the reaction of silyl dienolates R2CH:CHCH:C(OMe)OSiMe3 and aldehydes R1CHO in the presence of 10% of Carreira's catalyst is described. The scope and limitations of this reaction, as well as mechanistic insights concerning the reactivity of an allyl copper species, are discussed.

IT 133545-17-2

RL: CAT (Catalyst use); USES (Uses)

(asym. synthesis of α, β -unsatd. δ -lactones by

copper-catalyzed asym. vinylogous Mukaiyama reactions of aldehydes with silyl dienoates)

RN 133545-17-2 CAPLUS

CN Phosphine, 1,1'-[(1S)-6,6'-dimethoxy[1,1'-biphenyl]-2,2'-diyl]bis[1,1-diphenyl- (CA INDEX NAME)

OMe

REFERENCE COUNT:

69 THERE ARE 69 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L3 ANSWER 14 OF 212 CAPLUS COPYRIGHT 2007 ACS on STN

ACCESSION NUMBER:

2006:1135182 CAPLUS

DOCUMENT NUMBER:

146:62400

TITLE:

Enantioselective hydrogenation of $\beta\text{-keto}$ esters using a MeO-PEG-supported Biphep ligand under atmospheric pressure: a practical synthesis of

(S)-fluoxetine

AUTHOR(S):

Chai, Liting; Chen, Huansheng; Li, Zhiming; Wang,

Quanrui; Tao, Fenggang

CORPORATE SOURCE:

Department of Chemistry, Fudan University, Shanghai,

200433, Peop. Rep. China

SOURCE:

Synlett (2006), (15), 2395-2398 CODEN: SYNLES; ISSN: 0936-5214

PUBLISHER:

Georg Thieme Verlag

DOCUMENT TYPE:

Journal

LANGUAGE:

English

OTHER SOURCE(S):

CASREACT 146:62400

AB The preparation of a novel chiral 2,2'-bis(MeO-PEG-supported)-6,6'-bis(diphenylphosphinyl)biphenyl (MeO-PEG-Biphep) ligand is described. The derived ruthenium complex catalyzes the hydrogenation of β -keto esters in up to 99% yield and 99% ee under atmospheric pressure. The accelerating effects exerted by the PEG linkage are dramatic when compared to the unsupported analog, MeO-Biphep-RuBr2. Furthermore, the catalyst can be recovered easily and the recycled catalysts were shown to maintain their efficiency in two consecutive runs, albeit with declining activity. One of the products, (S)-ethyl-3-hydroxy-3-phenylpropanoate, is useful in the preparation of (S)-fluoxetine.

IT 151395-61-8DP, MeO-PEG supported
 RL: CAT (Catalyst use); SPN (Synthetic preparation); PREP (Preparation);
 USES (Uses)
 (preparation of fluoxetine via enantioselective hydrogenation of β-keto
 esters using polymer-supported phosphine ligand under atmospheric pressure)
RN 151395-61-8 CAPLUS
CN [1,1'-Biphenyl]-2,2'-diol, 6,6'-bis(diphenylphosphino)-, (1R)- (CA INDEX NAME)

IT 133545-16-1 RL: RCT (Reactant); RACT (Reactant or reagent) (preparation of polymer-supported phosphine ligand for ruthenium-catalyzed enantioselective hydrogenation of β -keto esters under atmospheric pressure) RN 133545-16-1 CAPLUS

CN Phosphine, 1,1'-[(1R)-6,6'-dimethoxy[1,1'-biphenyl]-2,2'-diyl]bis[1,1-diphenyl- (CA INDEX NAME)

IΤ

RN

CN [1,1'-Biphenyl]-2,2'-diol, 6,6'-bis(diphenylphosphino)-, (1R)- (CA INDEX NAME)

THERE ARE 28 CITED REFERENCES AVAILABLE FOR THIS 28 RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

ANSWER 15 OF 212 CAPLUS COPYRIGHT 2007 ACS on STN L3

ACCESSION NUMBER:

2006:1095655 CAPLUS

DOCUMENT NUMBER:

145:438994

TITLE:

Manufacture of lactones

INVENTOR(S):

Bonrath, Werner; Karge, Reinhard; Roessler, Felix

PATENT ASSIGNEE(S):

DSM Ip Assets B.V., Neth.

SOURCE:

PCT Int. Appl., 40pp.

CODEN: PIXXD2

DOCUMENT TYPE:

Patent English

LANGUAGE:

FAMILY ACC. NUM. COUNT:

PATENT INFORMATION:

PAT	PATENT NO.				KIN	D	DATE			APPL								
WO	2006	1085	62		A1		 2006:	1019							2	0060	407	
	W:	ΑE,	AG,	AL,	AM,	AT,	AU,	AZ,	ΒA,	BB,	BG,	BR,	BW,	BY,	ΒZ,	CA,	CH,	
		CN,	co,	CR,	CU,	CZ,	DE,	DK,	DM,	DZ,	EC,	EE,	EG,	ES,	FI,	GB,	GD,	
							ID,											
	•	KZ,	LC,	LK,	LR,	LS,	LT,	LU,	LV,	LY,	MA,	MD,	MG,	MK,	MN,	MW,	MX,	
	MZ, NA, NG, N				NI,	NO,	NZ,	OM,	PG,	PH,	PL,	PT,	RO,	RU,	SC,	SD,	SE,	
	SG, SK, SL, SM,					-												
		VN,	YU,	ZA,	ZM,	ZW	•	-	-									
	RW:	AT,	BE,	BG,	CH,	CY,	CZ,	DE,	DK,	EE,	ES,	FI,	FR,	GB,	GR,	HU,	ΙE,	
		-	-				MC,											
		•			-		GN,											
		GM,	KE,	LS,	MW,	MZ,	NA,	SD,	SL,	SZ,	TZ,	UG,	ZM,	ZW,	ΑM,	ΑZ,	BY,	
		-			RU,			-	•	•	•	•	-	-				
RITY	RITY APPLN. INFO.:								EP 2005-7722						A 20050408			
The	pre	sent	ion relates to				ocess for the manu											

PRIOF AB monocarboxylic esters (lactones) and related compds. by hydrogenation of cyclic dicarboxylic acid anhydrides in the presence of metal catalysts.

133545-17-2 150971-45-2 ΙT

> RL: CAT (Catalyst use); USES (Uses) (manufacture of lactones)

133545-17-2 CAPLUS

RNPhosphine, 1,1'-[(1S)-6,6'-dimethoxy[1,1'-biphenyl]-2,2'-diyl]bis[1,1-CN diphenyl- (CA INDEX NAME)

RN 150971-45-2 CAPLUS

CN Phosphine, [(1R)-6,6'-dimethoxy[1,1'-biphenyl]-2,2'-diyl]bis[bis(1-methylethyl)- (9CI) (CA INDEX NAME)

REFERENCE COUNT:

THERE ARE 3 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L3 ANSWER 16 OF 212 CAPLUS COPYRIGHT 2007 ACS on STN

ACCESSION NUMBER: DOCUMENT NUMBER:

2006:1093284 CAPLUS 145:438514

TITLE:

Process for preparation of optionally chiral cyclic carboxylic esters by homogeneous hydrogenation of cyclic dicarboxylic anhydrides catalyzed by iridium

complexes with chiral phosphines

INVENTOR(S):

Spindler, Felix

PATENT ASSIGNEE(S):

Solvias A.-G., Switz. PCT Int. Appl., 35pp.

SOURCE:

CODEN: PIXXD2

DOCUMENT TYPE:

Patent

LANGUAGE:

English

FAMILY ACC. NUM. COUNT:

PATENT INFORMATION:

P.	ATENT	NO.			KIN	D :	DATE		i	APPL	ICAT:	ION I	NO.		DATE			
			-												_			
W	2006	1088	02		A 1		2006	1019	1	WO 2	006-	EP61	424		2	0060	407	
	W:	ΑE,	AG,	AL,	AM,	ΑT,	AU,	ΑZ,	BA,	BB,	BG,	BR,	BW,	BY,	ΒZ,	CA,	CH,	
																GB,		
		GE,	GH,	GM,	HR,	HU,	ID,	IL,	IN,	IS,	JP,	KE,	KG,	KM,	KN,	ΚP,	KR,	
		ΚZ,	LC,	LK,	LR,	LS,	LT,	LU,	LV,	LY,	MA,	MD,	MG,	MK,	MN,	MW,	MX,	
		MZ,	NA,	NG,	NI,	NO,	NZ,	OM,	PG,	PH,	PL,	PT,	RO,	RU,	SC,	SD,	SE,	
		SG,	SK,	SL,	SM,	SY,	ТJ,	TM,	TN,	TR,	TT,	TZ,	UA,	UG,	US,	UZ,	VC,	
		VN,	YU,	ZA,	ZM,	zw												
	RW:	AT,	BE.	BG,	CH,	CY,	CZ,	DE,	DK,	EE,	ES,	FI,	FR,	GB,	GR,	HU,	ΙE,	

IS, IT, LT, LU, LV, MC, NL, PL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG, BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM

PRIORITY APPLN. INFO.:

CH 2005-641 A 20050408

OTHER SOURCE(S): CASREACT 145:438514; MARPAT 145:438514

The invention describes the preparation of lactones, with exception of 3,4-diaminotetrahydro-2-furanones, by catalytic hydrogenation of optional functionally substituted (hetero)aliphatic, (hetero)aromatic and mixed-type cyclic anhydrides containing 1-4 anhydride groups C(0)OC(0) and having up to 60 carbon atoms and 3-8 ring atoms, preferably 5 or 6 ring atoms, at -20° to 150°, preferably at 10-80° and 1-200 atm of H2 in the presence of 0.0001-10 mol%, preferably 0.01-5 mol% of iridium complex with optionally chiral phosphorus ligands (R50)(R60)PNR7R8, preferably 2,2'-binaphthol or 2,2'-biphenol derivs., diphosphines X1R3X2 (preferably X1 = X2 = diorganophosphino; R3 = C1-6 alkylene, C5-6 cycloalkylene, phenylene, naphthalenediyl, heterocyclyl, ferrocenediyl), a cocatalyst halide salt, preferably Bu4NI and optionally protic acid as a cocatalyst. The cyclic esters are obtained in good chemical and optical yields when prochiral anhydrides are used together with chiral iridium catalysts. In an example, hydrogenation of 1.62 mmol of cis-cyclohexanedicarboxylic anhydride in the presence of 0.0165 mmol of [Ir(cod)Cl]2 and 0.036 mmol of (1R)-2,2'-bis(diphenylphosphino)-6,6'dimethoxy-1,1'-biphenyl in 10 mL of CH2Cl2 at 80 atm of H2 and 60° for 15 h gave a quant. yield of (1R)-3-oxabicyclo[4.3.0]nonan-2-one with 62% ee.

IT 133545-16-1 910134-30-4

RL: CAT (Catalyst use); USES (Uses)

(process for preparation of chiral lactones by asym. hydrogenation of cyclic dicarboxylic anhydrides catalyzed by iridium phosphine complexes)

RN 133545-16-1 CAPLUS

CN Phosphine, 1,1'-[(1R)-6,6'-dimethoxy[1,1'-biphenyl]-2,2'-diyl]bis[1,1-diphenyl- (CA INDEX NAME)

RN 910134-30-4 CAPLUS

CN Phosphine, [(1S)-6,6'-dimethoxy[1,1'-biphenyl]-2,2'-diyl]bis[bis[3,5-bis(1,1-dimethylethyl)-4-methoxyphenyl]- (9CI) (CA INDEX NAME)

THERE ARE 4 CITED REFERENCES AVAILABLE FOR THIS REFERENCE COUNT: 4 RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

CAPLUS COPYRIGHT 2007 ACS on STN ANSWER 17 OF 212 L3

ACCESSION NUMBER:

2006:1091055 CAPLUS

DOCUMENT NUMBER:

145:438993

TITLE:

Manufacture of thiolactones

INVENTOR(S):

Bonrath, Werner; Karge, Reinhard; Roessler, Felix

PATENT ASSIGNEE(S):

DSM Ip Assets B.V., Neth.

SOURCE:

RN

CN

PCT Int. Appl., 33pp. CODEN: PIXXD2

DOCUMENT TYPE:

Patent

LANGUAGE:

English

FAMILY ACC. NUM. COUNT:

133545-17-2 CAPLUS

PATENT INFORMATION:

	PATENT NO.				KIND DATE			APPLICATION NO.						Di					
	WO	2006	1086	36		A1				1	WO 2	006-1	EP33'	75		2	0060	412	
		W:	ΑE,	AG,	AL,	AM,	AT,	AU,	ΑZ,	BA,	BB,	BG,	BR,	BW,	BY,	ΒZ,	CA,	CH,	
								DE,											
								ID,											
			KZ,	LC,	LK,	LR,	LS,	LT,	LU,	LV,	LY,	MA,	MD,	MG,	MK,	MN,	MW,	MX,	
			MZ,	NA,	NG,	NI,	NO,	ΝZ,	OM,	PG,	PH,	PL,	PT,	RO,	RU,	SC,	SD,	SE,	
			SG,	SK,	SL,	SM,	SY,	ТJ,	TM,	TN,	TR,	TT,	TZ,	UA,	ŬĠ,	US,	UŻ,	VC,	
•	VN, YU, ZA			ZA,	ZM,	zw													
	RW: AT, BE, BC				BG,	CH,	CY,	CZ,	DE,	DK,	ΕE,	ES,	FI,	FR,	GB,	GR,	HU,	ΙE,	
			IS,	IT,	LT,	LU,	LV,	MC,	NL,	PL,	PT,	RO,	SE,	SI,	SK,	TR,	BF,	ВJ,	
			CF,	CG,	CI,	CM,	GA,	GN,	GQ,	GW,	ML,	MR,	NE,	SN,	TD,	TG,	B₩,	GH,	
			GM,	KE,	LS,	MW,	ΜZ,	ΝA,	SD,	SL,	SZ,	TZ,	UG,	ZM,	ZW,	AM,	ΑZ,	BY,	
			KG,	ΚZ,	MD,	RU,	ТJ,	TM											
PRIO		' APP											8254						
AB																		yclic	thio
	est	ers	(thi	olac	tone	s) a:	nd r	elat	ed c	ompd	s. b	y hy	drog	enat	ion	of c	ycli	С	
	thioanhydrides in the presence of									etal	cat	alys	ts.						
ΙT	133	3545-	17-2																
	RL:	CAT	(Ca	taly	st u	se);	USE	S (U	ses)									•	
		(man	ufac	ture	of	thio	lact	ones)										

Phosphine, 1,1'-[(1S)-6,6'-dimethoxy[1,1'-biphenyl]-2,2'-diyl]bis[1,1-

THERE ARE 2 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

ANSWER 18 OF 212 CAPLUS COPYRIGHT 2007 ACS on STN

ACCESSION NUMBER:

2006:1031099 CAPLUS

DOCUMENT NUMBER:

145:396793

TITLE:

In situ generated asymmetric palladium phosphine

catalyst and uses thereof

INVENTOR(S):

Hii, King Kuok

CODEN: PIXXD2

PATENT ASSIGNEE(S):

Ic Innovations Limited, UK

SOURCE:

PCT Int. Appl., 33pp.

DOCUMENT TYPE:

Patent

LANGUAGE:

English

FAMILY ACC. NUM. COUNT:

PATENT INFORMATION:

PA	rent :	NO.			KIND DATE			APPLICATION NO.						DATE			
WO	2006	1034	53		A1 2006		2006	1005		WO 2	006-	GB11:	 81		2	0060:	330
	W:	ΑE,	AG,	AL,	AM,	AT,	AU,	ΑZ,	BA,	BB,	BG,	BR,	BW,	BY,	ΒZ,	CA,	CH,
		CN,	co,	CR,	CU,	CZ,	DE,	DK,	DM,	DZ,	EC,	EE,	EG,	ES,	FI,	GB,	GD,
		GE,	GH,	GM,	HR,	HU,	ID,	IL,	IN,	IS,	JP,	ΚE,	KG,	KM,	KN,	KΡ,	KR,
	KZ, LC, LK,				LR,	LS,	LT,	LU,	LV,	LY,	MA,	MD,	MG,	MK,	MN,	MW,	MX,
	MZ, NA, NG,				NI,	NO,	ΝZ,	OM,	PG,	PH,	PL,	PT,	RO,	RU,	SC,	SD,	SE,
		SG,	SK,	SL,	SM,	SY,	ТJ,	TM,	TN,	TR,	TT,	TZ,	ŲΑ,	UG,	US,	UZ,	VC,
		VN,	YU,	ZA,	ZM,	zw											
	RW:	AT,	BE,	BG,	CH,	CY,	CZ,	DE,	DK,	EE,	ES,	FI,	FR,	GB,	GR,	HU,	ΙE,
		IS,	IT,	LT,	LU,	LV,	MC,	NL,	PL,	PT,	RO,	SE,	SI,	SK,	TR,	BF,	ВJ,
	CF, CG, CI,				CM,	GA,	GN,	GQ,	GW,	ML,	MR,	ΝE,	SN,	TD,	TG,	BW,	GH,
	GM, KE, LS,				MW,	ΜŻ,	NA,	SD,	SL,	SZ,	TZ,	UG,	ZM,	ZW,	AM,	ΑZ,	BY,
	KG, KZ, MD,				RU,	ТJ,	TM										
PRIORIT	CIORITY APPLN. INFO.:								(GB 2	005-	6600			A 2	0050	331

GB 2005-19870

A 20050929

MARPAT 145:396793 OTHER SOURCE(S):

Claimed is a process for enantioselective addition of an amine to an alkene comprising incubating $Pd(OT\hat{f})2$ (OTf = triflate) with a phosphine ligand which has one or more biaryl groups to form an asym. catalyst in situ, then adding the amine and alkene to the in situ-generated catalyst to give the hydroamination product enantioselectively. The biarylphosphine ligand may be chiral mono-phosphines (e.g., (R) - or (S) -Monophos), diphosphines (e.g., (R) -BINAP), or triphosphines. The complexes [(R-BINAP) Pd(OH2)2](OTf)2 and [(R-BINAP)2Pd](OTf)2 were isolated,

characterized by x-ray crystallog. (figures provided with no data), and are also catalysts in the asym. hydroamination reaction.

133545-16-1 185913-97-7 IT

RL: CAT (Catalyst use); USES (Uses)

(enantioselective hydroamination of alkenes with amines catalyzed by in situ-generated asym. palladium phosphine catalysts)

RN133545-16-1 CAPLUS

Phosphine, 1,1'-[(1R)-6,6'-dimethoxy[1,1'-biphenyl]-2,2'-diyl]bis[1,1-CN diphenyl- (CA INDEX NAME)

RN185913-97-7 CAPLUS

Phosphine, [(1R)-5,5'-dichloro-6,6'-dimethoxy[1,1'-biphenyl]-2,2'-CN diyl]bis[diphenyl- (9CI) (CA INDEX NAME)

THERE ARE 4 CITED REFERENCES AVAILABLE FOR THIS REFERENCE COUNT: 4 RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

ANSWER 19 OF 212 CAPLUS COPYRIGHT 2007 ACS on STN L3

ACCESSION NUMBER:

2006:1001507 CAPLUS

DOCUMENT NUMBER:

146:34048

TITLE:

Heterogeneous asymmetric hydroformylation of olefins

on chirally modified Rh/SiO2 catalysts

AUTHOR(S):

Han, Difei; Li, Xiaohong; Zhang, Huidong; Liu, Zhimin;

Li, Jun; Li, Can

CORPORATE SOURCE:

State Key Laboratory of Catalysis, Dalian Institute of Chemical Physics, Chinese Academy of Sciences, Dalian,

116023, Peop. Rep. China

SOURCE:

Journal of Catalysis (2006), 243(2), 318-328

CODEN: JCTLA5; ISSN: 0021-9517

PUBLISHER:

Elsevier Ltd.

DOCUMENT TYPE:

Journal

LANGUAGE:

English

OTHER SOURCE(S):

CASREACT 146:34048

Heterogeneous chiral catalysts were prepared by modifying silica-supported rhodium (Rh/SiO2) with chiral phosphorus ligands. The chirally modified Rh/SiO2 catalysts exhibited high activity, regioselectivity, and enantioselectivity for the asym. hydroformylation of styrene and vinyl acetate. Up to 72% ee and 100% selectivity of branched aldehyde for the hydroformylation of vinyl acetate were obtained for (R)-BINAP-Rh/SiO2 catalysts. It is noteworthy that the modification of Rh/SiO2 with (S,S)-DIOP resulted in increased activity for the hydroformylation of vinyl acetate and gave a TOF of 128 h-1, even higher than that of the unmodified Rh/SiO2 catalyst (90 h-1). It is found that chiral modifiers with bidentate phosphines and an optimized modifier/rhodium molar ratio close to 1.0 were prerequisites for chiral induction on the chirally modified catalysts. 31P MAS NMR results and IR spectra of adsorbed CO indicated that the chiral modification via the coordination of phosphines to rhodium produces chirally active sites on the Rh/SiO2 catalysts.

ΙT 133545-17-2, (S)-MeO-BIPHEP

RL: CAT (Catalyst use); USES (Uses)

(preparation and characterization of silica-supported rhodium complexes with chiral and achiral phosphines as catalysts for regioselective and enantioselective hydroformylation reactions of styrene and vinyl acetate)

133545-17-2 CAPLUS RN

Phosphine, 1,1'-[(1S)-6,6'-dimethoxy[1,1'-biphenyl]-2,2'-diyl]bis[1,1-CN diphenyl- (CA INDEX NAME)

REFERENCE COUNT:

THERE ARE 36 CITED REFERENCES AVAILABLE FOR THIS 36 RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

ANSWER 20 OF 212 CAPLUS COPYRIGHT 2007 ACS on STN

ACCESSION NUMBER:

2006:960825 CAPLUS

DOCUMENT NUMBER:

145:489753

TITLE:

Statistical approach for the determination of the stereoregularity of optically active propylene-CO

copolymers

AUTHOR(S):

Bronco, Simona

CORPORATE SOURCE:

PolyLab-CNR and Department of Chemistry and Industrial

Chemistry, University of Pisa, Pisa, I-56126, Italy

SOURCE:

Helvetica Chimica Acta (2006), 89(8), 1740-1751

CODEN: HCACAV; ISSN: 0018-019X

PUBLISHER:

Verlag Helvetica Chimica Acta

DOCUMENT TYPE:

Journal

LANGUAGE: English

A two-parameter statistic model was applied to analyze the NMR spectra of a series of stereoregular propylene-CO copolymers synthesized by catalytic polymerization in the presence of various transition-metal complexes containing chiral ligands. The concentration of the different pentads, estimated to be recognizable in the spectra, was determined A tentative assignment of the nature of the different peaks composing the signal of the C=O group in the 13C-NMR spectra is proposed.

IT 150971-43-0 150971-51-0 150971-55-4 172617-14-0

RL: CAT (Catalyst use); USES (Uses)

(ligand; effect on preparation and stereoregularity of optically active propylene-CO copolymers)

RN 150971-43-0 CAPLUS

CN Phosphine, [(1S)-6,6'-dimethoxy[1,1'-biphenyl]-2,2'-diyl]bis[bis(1-methylethyl)- (9CI) (CA INDEX NAME)

RN 150971-51-0 CAPLUS

CN Phosphine, [(1S)-6,6'-dimethoxy[1,1'-biphenyl]-2,2'-diyl]bis[dicyclobutyl-(9CI) (CA INDEX NAME)

RN 150971-55-4 CAPLUS

CN Phosphine, [(1S)-6,6'-dimethoxy[1,1'-biphenyl]-2,2'-diyl]bis[dicyclopentyl-(9CI) (CA INDEX NAME)

RN 172617-14-0 CAPLUS

CN Phosphine, (6,6'-dimethoxy[1,1'-biphenyl]-2,2'-diyl)bis[dicyclohexyl-, (R)- (9CI) (CA INDEX NAME)

PAGE 1-A

PAGE 2-A

REFERENCE COUNT:

THERE ARE 20 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L3 ANSWER 21 OF 212 CAPLUS COPYRIGHT 2007 ACS on STN

ACCESSION NUMBER:

2006:939080 CAPLUS

DOCUMENT NUMBER:

145:364392

TITLE:

Method for manufacturing polymer-carried ru catalyst for synthesis of chiral secondary alcohol under normal

pressure

INVENTOR(S):

Wang, Quanrui; Chai, Liting; Chen, Huansheng; Wang,

Weiwei; Tao, Fenggang

PATENT ASSIGNEE(S):

. Fudan University, Peop. Rep. China

SOURCE:

Faming Zhuanli Shenging Gongkai Shuomingshu, 9pp.

CODEN: CNXXEV

DOCUMENT TYPE:

Patent

Chinese

LANGUAGE:

FAMILY ACC. NUM. COUNT:

PATENT INFORMATION:

PATENT NO.	KIND	DATÉ	APPLICATION NO.	DATE
CN 1827216	Α	20060906	CN 2006-10025279	20060330
PRIORITY APPLN. INFO.:			CN 2006-10025279	20060330

AB The title catalyst is manufactured by reaction of carrier ligand, Ru complex ((COD)Ru(-CH2CH(CH3)CH2)2) and hydrogen bromide methanol solution in acetone, wherein the mol ratio of the three reactants is (1-2):1:(2-3). The carrier ligand is prepared by reaction of polymer carrier (PEG) with chiral diphosphine (MeO-biphep) and base in organic solution, wherein the ratio of the three reactants is (1-3):1:(1-4). The catalyst can be used in synthesis of chiral secondary alcs. from precursor chiral ketones under normal pressure and at temperature range of room temperature to 80 °C. The catalyst obviates high pressure and high temperature reactor, and can be recycled conveniently. The catalyst also has the advantages of simple reaction process, high reaction rate, high yield, high stereoselectivity, low cost and no pollution.

IT 133545-16-1

RL: CAT (Catalyst use); USES (Uses)

(preparation of polymer-supported ruthenium catalyst for synthesis of chiral secondary alc. by hydrogenation)

133545-16-1 CAPLUS RN

Phosphine, 1,1'-[(1R)-6,6'-dimethoxy[1,1'-biphenyl]-2,2'-diyl]bis[1,1-CN diphenyl- (CA INDEX NAME)

IT 151395-61-8P

RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)

(preparation of polymer-supported ruthenium catalyst for synthesis of chiral secondary alc. by hydrogenation)

151395-61-8 CAPLUS RN

[1,1'-Biphenyl]-2,2'-diol, 6,6'-bis(diphenylphosphino)-, (1R)- (CA INDEX CN NAME)

L3 ANSWER 22 OF 212 CAPLUS COPYRIGHT 2007 ACS on STN

ACCESSION NUMBER:

2006:912246 CAPLUS

DOCUMENT NUMBER:

145:489519

TITLE:

Enantio- and Diastereoselective Hydrogenation via Dynamic Kinetic Resolution by a Cationic Iridium

Complex in the Synthesis of β -Hydroxy- α -

amino Acid Esters

AUTHOR(S):

Makino, Kazuishi; Iwasaki, Masamichi; Hamada, Yasumasa

CORPORATE SOURCE: Graduate School of Pharmaceutical Sciences, Chiba

University, Chiba, 263-8522, Japan

SOURCE:

Organic Letters (2006), 8(20), 4573-4576

CODEN: ORLEF7; ISSN: 1523-7060

PUBLISHER:

American Chemical Society

DOCUMENT TYPE:

Journal

LANGUAGE:

English

OTHER SOURCE(S):

CASREACT 145:489519

In the presence of a nonracemic catalyst generated in situ from [IrCl(COD)]2, sodium tetrakis[3,5-bis(trifluoromethyl)phenyl]borate, and (S)-MeO-BIPHEP, α -amino- β -keto ester hydrochlorides RCOCH (NH2) CO2Me \bullet HCl (R = Ph, 3-MeC6H4, 4-MeC6H4, 4-Me3CC6H4, 4-PhCH2OC6H4, 3-Cl-4-PhCH2OC6H3, 4-BrC6H4, 2-naphthyl, 2-thienyl, 2-furyl) and Me3CCOCH(NH2)CO2CH2Ph•HCl undergo stereoselective and enantioselective hydrogenation mediated by dynamic kinetic resolution followed by benzoylation to give nonracemic anti- α -(benzoylamino)- β -hydroxy esters RCH(OH)CH(NHBz)CO2Me (R = Ph, 3-MeC6H4, 4-MeC6H4, 4-Me3CC6H4, 4-PhCH2OC6H4, 3-Cl-4-PhCH2OC6H3, 4-BrC6H4, 2-naphthyl, 2-thienyl, 2-furyl) and Me3CCH(OH)CH(NHCOPh)CO2CH2Ph in 61-100% yields and in 82-93% ee. The catalyst is more easily handled and requires lower hydrogen pressures than previous iridium hydrogenation catalysts used for the preparation of α -amino- β -hydroxy esters. The rates of formation of the enantiomers of anti-PhCH(OH)CH(NH2)CO2Me by hydrogenation of PhC(:O)CH(NH2)CO2Me•HCl in the presence of [IrCl(COD)]2, sodium tetrakis[3,5-bis(trifluoromethyl)phenyl]borate, and (S)-MeO-BIPHEP respond differently to changes in the hydrogen pressure used.

IT 133545-17-2, (S)-MeO-BIPHEP

RL: CAT (Catalyst use); USES (Uses)

(stereoselective and enantioselective preparation of anti- $\alpha-$ (benzoylamino)- $\beta-$ keto esters using the hydrogenation and dynamic kinetic resolution of $\alpha-$ amino- $\beta-$ keto esters in the presence of a cationic iridium complex)

RN 133545-17-2 CAPLUS

CN Phosphine, 1,1'-[(1S)-6,6'-dimethoxy[1,1'-biphenyl]-2,2'-diyl]bis[1,1-diphenyl- (CA INDEX NAME)

39 THERE ARE 39 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

ANSWER 23 OF 212 CAPLUS COPYRIGHT 2007 ACS on STN

ACCESSION NUMBER:

2006:908576 CAPLUS

DOCUMENT NUMBER:

145:471172

TITLE:

Rhodium-Catalyzed Asymmetric Allylic Substitution with

Boronic Acid Nucleophiles

AUTHOR(S):

Menard, Frederic; Chapman, Timothy M.; Dockendorff,

Chris; Lautens, Mark

CORPORATE SOURCE:

Davenport Laboratories, Department of Chemistry, University of Toronto, Toronto, ON, M5H 3H6, Can.

Organic Letters (2006), 8(20), 4569-4572 SOURCE:

CODEN: ORLEF7; ISSN: 1523-7060

PUBLISHER:

American Chemical Society

DOCUMENT TYPE:

Journal

English LANGUAGE:

An enantio-, regio-, and diastereoselective rhodium(I)-catalyzed desymmetrization of a meso-cyclic allylic dicarbonate with organoboronic acid nucleophiles is described. The rhodium(I) catalyst formed in situ from [Rh(cod)OH]2 and Xyl-P-PHOS allowed the SN2' allylic substitution product to be obtained with a range of arylboronic acids in enantiomeric excesses of up to 92% with regioselectivities of up to >20:1.

185913-97-7 IT

RL: CAT (Catalyst use); USES (Uses)

28

(rhodium-catalyzed asym. allylic substitution with boronic acid nucleophiles)

185913-97-7 CAPLUS RN

Phosphine, [(1R)-5,5'-dichloro-6,6'-dimethoxy[1,1'-biphenyl]-2,2'-CN divl|bis[diphenyl- (9CI) (CA INDEX NAME)

REFERENCE COUNT:

THERE ARE 28 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT ANSWER 24 OF 212 CAPLUS COPYRIGHT 2007 ACS on STN

ACCESSION NUMBER:

2006:866581 CAPLUS

DOCUMENT NUMBER:

145:271387

TITLE:

Process for the preparation of enantiomerically pure 1-substituted-3-amino alcohols using methyl ketones, primary amines, formaldehydes and sulfonic acids Brieden, Walter; Clausen, Martin; McGarrity, John;

INVENTOR(S):

Mettler, Hanspeter; Michel, Dominique

PATENT ASSIGNEE(S):

Lonza A.-G., Switz. PCT Int. Appl., 38pp.

CODEN: PIXXD2

DOCUMENT TYPE:

Patent

LANGUAGE:

SOURCE:

English

FAMILY ACC. NUM. COUNT:

PATENT INFORMATION:

PA'	PATENT NO.					KIND DATE				APPLICATION NO.									
WO	2006	0871	- -		A1	-	2006	0824	1						2	00602	214		
	W:	ΑE,	AG,	AL,	AM,	ΑT,	AU,	ΑZ,	BA,	BB,	BG,	BR,	BW,	BY,	BZ,	CA,	CH,		
		CN,	co,	CR,	CU,	CZ,	DE,	DK,	DM,	DZ,	EC,	EE,	EG,	ES,	FI,	GB,	GD,		
		GE,	GH,	GM,	HR,	HU,	ID,	IL,	IN,	IS,	JP,	ΚE,	KG,	KM,	KN,	KP,	KR,		
		ΚZ,	LC,	LK,	LR,	LS,	LT,	LU,	LV,	LY,	MA,	MD,	MG,	MK,	MN,	MW,	MX,		
		ΜZ,	NA,	NG,	NI,	NO,	NZ,	OM,	PG,	PH,	PL,	PT,	RO,	RU,	SC,	SD,	SE,		
		SG,	SK,	SL,	SM,	SY,	ТJ,	TM,	TN,	TR,	TT,	TZ,	UA,	UG,	US,	UZ,	VC,		
		VN,	YU,	ZA,	ZM,	zw													
	RW:	ΑT,	BE,	BG,	CH,	CY,	CZ,	DE,	DK,	EE,	ES,	FI,	FR,	GB,	GR,	HU,	ΙE,		
		IS,	IT,	LT,	LU,	LV,	MC,	NL,	PL,	PT,	RO,	SE,	SI,	SK,	TR,	BF,	ВJ,		
		CF,	CG,	CI,	CM,	GA,	GN,	GQ,	GW,	ML,	MR,	ΝE,	SN,	TD,	TG,	BW,	GH,		
		GM,	ΚE,	LS,	MW,	ΜZ,	NA,	SD,	SL,	SZ,	ΤZ,	UG,	ZM,	ZW,	AM,	ΑZ,	BY,		
		KG,	ΚZ,	MD,	RU,	ТJ,	TM												
EP	1693									EP 20						00502			
	R:															MC,			
		ΙE,	SI,	LT,	LV,	FI,	RO,	MK,	CY,	AL,	TR,	BG,	CZ,	EE,	HU,	PL,	SK,		
		BA,	HR,	IS,	YU														
	ORITY APPLN. INFO.:																		
OTHER SO	ER SOURCE(S):								71387; MARPAT 145:2713					387					

$$R^{1}$$
 NH_{2}^{+}
 $R^{3}-SO_{3}^{-}$
 NH_{2}^{+}
 $R^{3}-SO_{3}^{-}$
 R^{2}
 R^{1}
 NH_{2}^{+}
 $R^{3}-SO_{3}^{-}$
 R^{2}
 $R^{3}-SO_{3}^{-}$
 R^{2}
 $R^{3}-SO_{3}^{-}$

Provided is a process for the preparation of N-monosubstituted β -aminoalc. AΒ sulfonates of formula I. Compds. of formula I wherein R1 is (un) substituted C6-20 aryl or (un) substituted C4-12 heteroaryl; R2 is C1-4-alkyl or (un) substituted C6-20 aryl; R3 is selected from the group consisting of C1-18 alkyl, C6-20 cycloalkyl, C6-20 aryl and C7-20 aralkyl residues, and the process for preparing compds. of formula I are claimed. The process comprising the steps of a) reacting a Me ketone, a primary amine, formaldehyde and a sulfonic acid, at a pressure above 1.5 bar, optionally in a organic solvent, said organic solvent optionally containing water,

to afford N-monosubstituted β -amino ketone sulfonates of formula II,

wherein R1, R2 and R3 are as defined above, and b) asym. hydrogenating said sulfonates in the presence of a base and a catalyst, comprising a transition metal and a diphosphine ligand, in a polar solvent, optionally in the presence of water.

133545-16-1 133545-17-2, (S)-MeO-BiPhep IT

RL: CAT (Catalyst use); USES (Uses)

(catalyst; preparation of enantiomerically pure sulfonate salts of substituted amino alcs. and amino ketones by reacting Me ketones, primary amine, formaldehyde and sulfonic acids)

133545-16-1 CAPLUS RN

Phosphine, 1,1'-[(1R)-6,6'-dimethoxy[1,1'-biphenyl]-2,2'-diyl]bis[1,1-CN diphenyl- (CA INDEX NAME)

RN133545-17-2 CAPLUS

Phosphine, 1,1'-[(1S)-6,6'-dimethoxy[1,1'-biphenyl]-2,2'-diyl]bis[1,1diphenyl- (CA INDEX NAME)

REFERENCE COUNT:

6 THERE ARE 6 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

ANSWER 25 OF 212 CAPLUS COPYRIGHT 2007 ACS on STN

ACCESSION NUMBER:

2006:759321 CAPLUS

DOCUMENT NUMBER:

145:335881

TITLE:

Highly enantioselective reductive cyclization of acetylenic aldehydes via rhodium catalyzed asymmetric

hydrogenation

AUTHOR(S):

Rhee, Jong Uk; Krische, Michael J.

CORPORATE SOURCE:

Department of Chemistry and Biochemistry, University

of Texas at Austin, Austin, TX, 78712, USA

Journal of the American Chemical Society (2006),

128(33), 10674-10675

CODEN: JACSAT; ISSN: 0002-7863

PUBLISHER: American Chemical Society

DOCUMENT TYPE: Journal LANGUAGE: English

OTHER SOURCE(S): CASREACT 145:335881

Catalytic hydrogenation of acetylenic aldehydes using chirally modified cationic rhodium catalysts enabled highly enantioselective reductive cyclization to afford cyclic allylic alcs. Using an achiral hydrogenation catalyst, the chiral racemic acetylenic aldehydes engaged in highly syn-diastereoselective reductive cyclizations to afford cyclic allylic alcs. Ozonolysis of cyclization products allowed access to optically enriched α -hydroxy ketones. Reductive cyclization of enyne under a deuterium atmospheric provided the monodeuterated product, consistent with a catalytic mechanism involving alkyne-carbonyl oxidative coupling followed by hydrogenolytic cleavage of the resulting oxametallacycle. These hydrogen-mediated transformations represents an examples of the enantioselective reductive cyclization of acetylenic aldehydes.

IT 185913-97-7

SOURCE:

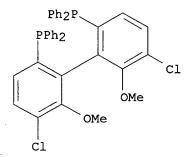
RL: CAT (Catalyst use); USES (Uses)

(stereoselective preparation of pyrrolidinols and furanols via ozonolysis of (allyl)acetylene derivs. followed by BIPHEP-rhodium-catalyzed asym.

hydrogenation/reductive cyclization)

RN 185913-97-7 CAPLUS

CN Phosphine, [(1R)-5,5'-dichloro-6,6'-dimethoxy[1,1'-biphenyl]-2,2'-diyl]bis[diphenyl- (9CI) (CA INDEX NAME)



REFERENCE COUNT: 52 THERE ARE 52 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L3 ANSWER 26 OF 212 CAPLUS COPYRIGHT 2007 ACS on STN

ACCESSION NUMBER: 2006:729444 CAPLUS

DOCUMENT NUMBER: 145:356593

TITLE: Platinum-Catalyzed Intramolecular Asymmetric

Hydroarylation of Unactivated Alkenes with Indoles

AUTHOR(S): Han, Xiaoqing; Widenhoefer, Ross A.

CORPORATE SOURCE: P. M. Gross Chemical Laboratory, Duke University,

Durham, NC, 27708-0346, USA

SOURCE: Organic Letters (2006), 8(17), 3801-3804

CODEN: ORLEF7; ISSN: 1523-7060

PUBLISHER: American Chemical Society

DOCUMENT TYPE: Journal LANGUAGE: English

AB A 1:1 mixture of the Pt bis(phosphine) complex [(S)-4] PtCl2 [(S)-4]

(S)-3,5-t-Bu-4-MeO-MeOBIPHEP] catalyzes the intramol. asym. hydroarylation

of 2-(4-pentenyl)indoles in moderate to good yield with up to 90% ee. E.g., reaction of a suspension of 2-(2,2-dicarbomethoxy-4-pentenyl)-1-

benzylindole, [(S)-3,5-t-Bu-4-MeO-MeOBIPHEP]PdCl2 (10 mol%) and AgOTf in MeOH was stirred at 60° for 20 h to give 2,2-dicarbomethoxy-4-methyl-9-benzyl-1,3,4,9-tetrahydrocarbazole in 95% yield. 256390-45-1 910134-30-4

RN 256390-45-1 CAPLUS

CN Phosphine, [(1R)-6,6'-dimethoxy[1,1'-biphenyl]-2,2'-diyl]bis[bis[3,5-bis(1-methylethyl)phenyl]- (9CI) (CA INDEX NAME)

RN 910134-30-4 CAPLUS

CN Phosphine, [(1S)-6,6'-dimethoxy[1,1'-biphenyl]-2,2'-diyl]bis[bis[3,5-bis(1,1-dimethylethyl)-4-methoxyphenyl]- (9CI) (CA INDEX NAME)

ANSWER 27 OF 212 CAPLUS COPYRIGHT 2007 ACS on STN L3

2006:725322 CAPLUS ACCESSION NUMBER:

145:335661 DOCUMENT NUMBER:

 α -Hydroxy Esters via Enantioselective TITLE:

Hydrogen-Mediated C-C Coupling: Regiocontrolled

Reactions of Silyl-Substituted 1,3-Diynes

AUTHOR(S):

Cho, Chang-Woo; Krische, Michael J.

CORPORATE SOURCE:

Department of Chemistry and Biochemistry, University

of Texas at Austin, Austin, TX, 78712, USA Organic Letters (2006), 8(17), 3873-3876

CODEN: ORLEF7; ISSN: 1523-7060

PUBLISHER:

SOURCE:

American Chemical Society

DOCUMENT TYPE:

Journal

LANGUAGE:

English

OTHER SOURCE(S):

CASREACT 145:335661

Rhodium-catalyzed asym. reductive coupling of Et glyoxalate and 1,3-diynes in the presence of mol. hydrogen afforded α -hydroxy- β , γ enynoates with high regio- and enantioselectivity. Reaction of R1C.tplbond.CC.tplbond.CR3 with OHCCOOR2 and H2 in the presence of Rh-(R)-Cl, MeO-BIPHEP [(1R)-5,5'-dichloro-6,6'-dimethoxy-1,1'-biphenyl-2,2'bis(diphenylphosphine)] gave (2R)-R3C.tplbond.CCH:CR1CH(OH)COOR2 (1c, R1 = R3 = Ph, R2 = Et; 4c-9c, R1 = Me3Si, Me2tBuSi; R2 = Et; R3 = Ph, Me, cyclopropylmethyl, Me2tBuSiOCH2) with alkyne regioselectivity of >99% and ee values of 89-94%. Notably, for trialkylsilyl-substituted 1,3-diynes, C-C coupling occurs exclusively at the carbon atom bearing silyl group. $\pi ext{-Back-bonding from low valent rhodium as described by the}$ Dewar-Chatt-Duncanson model appears to direct the regiochem. of C-C coupling, as corroborated by calcns. of the diyne LUMO coeffs.

185913-97-7, (R)-Cl, MeO-BIPHEP ΙT

RL: CAT (Catalyst use); USES (Uses)

(preparation of chiral α -hydroxy- β , γ -enynoates by rhodium-catalyzed asym. reductive regioselective coupling of 1,3-diynes with α -oxo esters and dihydrogen)

185913-97-7 CAPLUS RN

Phosphine, [(1R)-5,5'-dichloro-6,6'-dimethoxy[1,1'-biphenyl]-2,2'diyl]bis[diphenyl- (9CI) (CA INDEX NAME)

REFERENCE COUNT:

27 THERE ARE 27 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

ANSWER 28 OF 212 CAPLUS COPYRIGHT 2007 ACS on STN

ACCESSION NUMBER:

2006:699682 CAPLUS

DOCUMENT NUMBER:

145:167551

TITLE:

Process for producing optically active

 β -hydroxy- α -aminocarboxylic acid

derivatives

INVENTOR(S):

Hamada, Yasumasa; Makino, Kazuishi

PATENT ASSIGNEE(S): Nissan Chemical Industries, Ltd., Japan

SOURCE: PCT Int. Appl., 40 pp.

CODEN: PIXXD2

DOCUMENT TYPE:

LANGUAGE:

Patent Japanese

FAMILY ACC. NUM. COUNT:

PATENT INFORMATION:

PATENT NO.						KIND DATE				APPL	ICAT:	DATE							
WO	2006	2006075651			A1	_	20060720		1	WO 2	006-								
	W:	ΑE,	AG,	AL,	AM,	ΑT,	AU,	ΑZ,	BA,	BB,	BG,	BR,	BW,	BY,	BZ,	CA,	CH,		
		CN,	co,	CR,	CU,	CZ,	DE,	DK,	DM,	DZ,	EC,	EE,	ĔG,	ES,	FI,	GB,	GD,		
		GE,	GH,	GM,	HR,	HU,	ID,	IL,	IN,	IS,	JP,	ΚE,	KG,	KM,	KN,	KP,	KR,		
		ΚZ,	LC,	LK,	LR,	LS,	LT,	LU,	LV,	LY,	MA,	MD,	MG,	MK,	MN,	MW,	MX,		
		ΜZ,	NA,	NG,	NI,	NO,	NZ,	OM,	PG,	PH,	PL,	PT,	RO,	RU,	sc,	SD,	SE,		
		SG,	SK,	SL,	SM,	SY,	ТJ,	TM,	TN,	TR,	TT,	TZ,	UA,	UG,	US,	UZ,	VC,		
•		VN,	YU,	ZA,	ZM,	ZW													
	RW:	ΑT,	BE,	BG,	CH,	CY,	CZ,	DE,	DK,	EE,	ES,	FI,	FR,	GB,	GR,	HU,	ΙE,		
		IS,	IT,	LT,	LU,	LV,	MC,	NL,	PL,	PT,	RO,	SE,	SI,	SK,	TR,	BF,	ВJ,		
		CF,	CG,	CI,	CM,	GΑ,	GN,	GQ,	GW,	ML,	MR,	NE,	SN,	TD,	TG,	BW,	GH,		
		GM,	ΚE,	LS,	MW,	MZ,	NA,	SD,	SL,	SZ,	TZ,	UG,	ZM,	ZW,	AM,	ΑZ,	BY,		
		KG,	ΚZ,	MD,	RU,	ТJ,	TM												
PRIORITY APPLN. INFO.:						JP 2005-5366									A 20050112				
OTHER SOURCE(S):						MARPAT 145:167551													
GI																			

- * STRUCTURE DIAGRAM TOO LARGE FOR DISPLAY AVAILABLE VIA OFFLINE PRINT *
- Optically active β -hydroxy- α -aminocarboxylic acid derivs. represented by the formula (I) or (II) [R1 = each (un)substituted C1-20 alkyl or C4-12 aromatic group; R2 = each (un)substituted C1-20 alkyl or C4-12 aromatic group] are prepared by catalytic asym. hydrogenation reaction of α -aminoacylacetic ester compds. represented by the formula R1COCH(NH2)CO2R2 (R1, R2 = same as above) in the presence of an acid and a rhodium complex catalyst having as a ligand an optically active compound represented by the formula [III or IV; R3, R4 = (un)substituted Ph, C1-7 alkyl, 2-furyl] or [V; R6 = each (un) substituted Ph or naphthyl, cyclopentyl, cyclohexyl; R7 = Me, MeO; R8 = H, Me, MeO, C1; R9 = H, Me, MeO, dimethylamino, diethylamino] wherein the hydrogenation is conducted in the presence of an acetic acid salt. This process efficiently produces the anti isomer of an optically active β -hydroxy- α aminocarboxylic acid derivs. useful as intermediates for medicines/agricultural chems. Thus, 50 mg 2-amino-3-oxo-3-phenylpropanoic acid Me ester hydrochloride (preparation given) was hydrogenated in the presence of [Rh(nbd)2]Bf4 (nbd = norbonadiene), 4.7 mg (R)-(-)-1-[(S)-2-(diphenylphosphino) ferrocenyl] ethyl-di-tertbutylphosphine, and 17.9 mg AcONa in a mixture of 1 mL CH2Cl2 and 1.1 mL AcOH at 50 atm hydrogen pressure at 23° for 12 h followed by N-tert-butoxycarbonylation with di-tert-Bu dicarbonate in the presence of NaHCO3 in aqueous dioxane gave 70% (2S,3S)-2-(tert-butoxycarbonylamino)-3hydroxy-3-phenylpropanoic acid Me ester (VI) (75.2% ee and syn/anti isomer ratio of >99:5) as compared to the syn/anti isomer ratio of 56:44 when the hydrogenation was carried out without AcONa.
- IT 133545-17-2, (S)-MeO-BIPHEP 133545-19-4

133545-20-7 172617-14-0

RL: CAT (Catalyst use); USES (Uses)

(preparation of optically active β -hydroxy- α -aminocarboxylic acid derivs. by asym. hydrogenation of α -amino- β -keto carboxylic

acid esters)

RN 133545-17-2 CAPLUS

CN Phosphine, 1,1'-[(1S)-6,6'-dimethoxy[1,1'-biphenyl]-2,2'-diyl]bis[1,1-diphenyl- (CA INDEX NAME)

RN 133545-19-4 CAPLUS

CN Phosphine, [(1R)-5,5',6,6'-tetramethoxy[1,1'-biphenyl]-2,2'-diyl]bis[diphenyl- (9CI) (CA INDEX NAME)

RN 133545-20-7 CAPLUS

CN Phosphine, [(1S)-5,5',6,6'-tetramethoxy[1,1'-biphenyl]-2,2'-diyl]bis[diphenyl- (9CI) (CA INDEX NAME)

RN 172617-14-0 CAPLUS

CN Phosphine, (6,6'-dimethoxy[1,1'-biphenyl]-2,2'-diyl)bis[dicyclohexyl-, (R)- (9CI) (CA INDEX NAME)

PAGE 1-A

PAGE 2-A

REFERENCE COUNT:

6 THERE ARE 6 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L3 ANSWER 29 OF 212 CAPLUS COPYRIGHT 2007 ACS on STN

ACCESSION NUMBER:

2006:627602 CAPLUS

DOCUMENT NUMBER:

145:103874

TITLE:

Chemical processes for the preparation of a colchinol

derivative and intermediates

INVENTOR(S):

Broady, Simon Daniel; Martin, David Michael Glanville;

Lennon, Ian Campbell; Ramsden, James Andrew; Muir,

James Campbell

Astrazeneca AB, Swed.; Astrazeneca UK Limited PATENT ASSIGNEE(S):

PCT Int. Appl., 53 pp. SOURCE:

CODEN: PIXXD2 Patent

DOCUMENT TYPE: English LANGUAGE:

FAMILY ACC. NUM. COUNT:

PATENT INFORMATION:

PATENT NO.					KIND DATE				APPL	ICAT	DATE						
WO	WO 2006067412			A1 20060629			1	WO 2	005-		20051219						
	W:	ΑE,	AG,	AL,	AM,	ΑT,	ΑU,	AZ,	BA,	BB,	BG,	BR,	BW,	BY,	ΒZ,	CA,	CH,
		CN,	co,	CR,	CU,	CZ,	DE,	DK,	DM,	DZ,	EC,	EE,	EG,	ES,	FI,	GB,	GD,
		GE,	GH,	GM,	HR,	HU,	ID,	IL,	IN,	IS,	JP,	ΚE,	KG,	KM,	KN,	ΚP,	KR,
		KZ,	LC,	LK,	LR,	LS,	LT,	LU,	LV,	LY,	MA,	MD,	MG,	MK,	MN,	MW,	MX,
		MZ,	NA,	NG,	NI,	NO,	ΝZ,	OM,	PG,	PH,	PL,	PT,	RO,	RU,	SC,	SD,	SE,
		SG,	SK,	SL,	SM,	SY,	ТJ,	TM,	TN,	TR,	TT,	TZ,	UA,	UG,	US,	UZ,	VC,
		VN,	YU,	ZA,	ZM,	ZW											
	RW:	AT,	BE,	BG,	CH,	CY,	CZ,	DE,	DK,	EE,	ES,	FI,	FR,	GB,	GR,	HU,	ΙE,
		IS,	IT,	LT,	LU,	LV,	MC,	NL,	PL,	PT,	RO,	SE,	SI,	SK,	TR,	BF,	ВJ,
		CF,	CG,	CI,	CM,	GA,	GN,	GQ,	GW,	ML,	MR,	NE,	SN,	TD,	TG,	BW,	GH,
		GM,	KE,	LS,	MW,	ΜZ,	NA,	SD,	SL,	SZ,	TZ,	UG,	ZM,	ZW,	AM,	ΑZ,	BY,
		KG,	KZ,	MD,	RU,	TJ,	TM										
ORITY APPLN. INFO.:					GB 2004-28101 A 20041223												
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PRIO

OTHER SOURCE(S):

CASREACT 145:103874; MARPAT 145:103874

GΙ

A process for the preparation of a colchinol derivative I [R = C1-6-alkyl, CH2Ph,

C(:0)-(C1-6-alkyl), or two RO groups together = C1-4-alkylenedioxy group; Ac is acetyl], by reduction of the corresponding enamide II. Colchinol derivs. with high enantiomeric purity are obtained by hydrogenation in the presence of a transition metal catalyst, particularly a catalyst selected from a rhodium complex, a ruthenium complex or an iridium complex. Novel compds. III [R = R = C1-6-alkyl, CH2Ph, C(:0)-(C1-6-alkyl), or two RO

groups together = C1-4-alkylenedioxy group; P = H, suitable hydroxy protecting group] are also described. Thus, (S)-N-acetylcolchinol (IV) was prepared in 99% yield (91.6% e.e.) from enamide III [R = Me, P = P(:O) (OH)2] via hydrogenation with [(S)-iPrFerroTANE]Ru(Methallyl)2 in MeOH.

IT 133545-16-1, (R)-MeOBIPHEP 185913-97-7, (R)-ClMeOBIPHEP

RL: CAT (Catalyst use); USES (Uses)

(chiral ligands for hydrogenation catalysts; chemical processes for the preparation of a colchinol derivative and intermediates via catalytic hydrogenation)

RN 133545-16-1 CAPLUS

CN Phosphine, 1,1'-[(1R)-6,6'-dimethoxy[1,1'-biphenyl]-2,2'-diyl]bis[1,1-diphenyl- (CA INDEX NAME)

RN 185913-97-7 CAPLUS

CN Phosphine, [(1R)-5,5'-dichloro-6,6'-dimethoxy[1,1'-biphenyl]-2,2'-diyl]bis[diphenyl- (9CI) (CA INDEX NAME)

REFERENCE COUNT:

3 THERE ARE 3 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L3 ANSWER 30 OF 212 CAPLUS COPYRIGHT 2007 ACS on STN

ACCESSION NUMBER:

2006:627129 CAPLUS

DOCUMENT NUMBER:

145:103370

TITLE:

Enantioselective synthesis of a sterically hindered

amine

INVENTOR(S):
PATENT ASSIGNEE(S):

Berens, Ulrich; Malan, Christophe; Kirner, Hans Juerg

Ciba Specialty Chemicals Holding Inc., Switz.

SOURCE:

PCT Int. Appl., 33 pp.

DOCUMENT TYPE:

CODEN: PIXXD2

LANGUAGE:

Patent English

PA'	KIND DATE			1		ICAT:	DATE										
	WO 2006067060 WO 2006067060					A2 20060629 A3 20060824			1								
,,,				AT.			AU,		BA.	BB.	BG.	BR.	BW.	BY.	BZ.	CA,	CH,
							DE,										
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		VN,	YU,	ZA,	ZM,	zw											
	RW:	ΑT,	BE,	BG,	CH,	CY,	CZ,	DE,	DK,	EE,	ES,	FI,	FR,	GB,	GR,	HU,	ΙE,
							MC,										
							GN,										
		GM,	ΚE,	LS,	MW,	ΜZ,	ΝA,	SD,	SL,	SZ,	TZ,	UG,	ZM,	ZW,	AM,	ΑZ,	BY,
		KG,	ΚZ,	MD,	RU,	ТJ,	TM										
PRIORIT	EP 2004-106820								i	A 20041222							
OTHER S	MARPAT 145:103370																
GI																	

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 $(\alpha-Cyclobutylalkyl)$ amines of the formula (I; R = Ph optionally AΒ substituted by Cl, Br, Cl-4 alkyl, or CF3; Rl = H, Me, Et; R2 = H, Me, acyl; R3 = H, Me; R4 = Me or :CH2) may be obtained in high enantiopurity by asym. hydrogenation of a $(\alpha$ -cyclobutylalkenyl)amide of the formula (II; R-R4 = same as above; A = acyl) in the presence of a chiral rhodium or ruthenium catalyst wherein a residue R1 as Me or Et and/or R2 as H or Me may subsequently be introduced without racemization by deacylation and optional alkylation. Thus, 20.0 g N-[(z)-1-[1-(4-z)]Chlorophenyl)cyclobutyl]-3-methylbuta-1,3-dienyl]acetamide (III) was hydrogenated in the presence of [Ru-C12-(p-cymene)2] (42.3 mg) and (R)-MeOBiphep (80.4 mg) in 20 mL ethanol in an autoclave at hydrogen pressure (10 bar) and temperature 50° for 26 h to give 19.9 g N-[(R)-1-[1-(4-Chlorophenyl)cyclobutyl]-3-methylbutan-1-yl]acetamide (IV; A = Ac) (98.5% ee). IV (A = Ac) (1.0 g) was heated in 37% aqueous HCl solution in an autoclave at 180° for 9 h to give 725 mg N-[(R)-1-[1-(4-Chlorophenyl)cyclobutyl]-3-methylbutan-1-yl]amine (N,Ndidesmethylsibutramine) hydrochloride IV.HCl (A = H) (77.9% yield, 95.7% ee). ΙT

RL: CAT (Catalyst use); USES (Uses) (preparation of sterically hindered (α -cyclobutylalkyl)amines by asym. hydrogenation of (α -cyclobutylalkenyl)amides chiral rhodium or ruthenium catalyst) 133545-16-1 CAPLUS

Phosphine, 1,1'-[(1R)-6,6'-dimethoxy[1,1'-biphenyl]-2,2'-diyl]bis[1,1-diphenyl- (CA INDEX NAME)

RN

CN

Ph₂P R

L3 ANSWER 31 OF 212 CAPLUS COPYRIGHT 2007 ACS on STN

ACCESSION NUMBER: 2006:600169 CAPLUS

DOCUMENT NUMBER: 145:249358

TITLE: Enantioselective C-C Bond Cleavage Creating Chiral

Quaternary Carbon Centers

AUTHOR(S): Matsuda, Takanori; Shigeno, Masanori; Makino, Masaomi;

Murakami, Masahiro

CORPORATE SOURCE: Department of Synthetic Chemistry & Biological

Chemistry, Kyoto University, Katsura, Kyoto, 615-8510,

Japan

SOURCE: Organic Letters (2006), 8(15), 3379-3381

CODEN: ORLEF7; ISSN: 1523-7060

PUBLISHER: American Chemical Society

DOCUMENT TYPE: Journal LANGUAGE: English

OTHER SOURCE(S): CASREACT 145:249358

GΙ

IT

133545-16-1

AB A chiral all-carbon benzylic quaternary carbon center was created by the asym. intramol. addition/ring-opening reaction of a boryl-substituted cyclobutanone, which involved enantioselective β -carbon elimination from a sym. rhodium cyclobutanolate. The asym. reaction was successfully applied to a synthesis of sesquiterpene, (-)- α -herbertenol (I).

RL: CAT (Catalyst use); USES (Uses) (asym. synthesis of the sesquiterpene (-)- α -herbertenol via asym.

intramol. addition/ring-opening reaction of a boryl-substituted cyclobutanone, which involves enantioselective β -carbon elimination from a sym. rhodium cyclobutanolate.)

133545-16-1 CAPLUS RN

Phosphine, 1,1'-[(1R)-6,6'-dimethoxy[1,1'-biphenyl]-2,2'-diyl]bis[1,1-CN diphenyl- (CA INDEX NAME)

21 THERE ARE 21 CITED REFERENCES AVAILABLE FOR THIS REFERENCE COUNT: RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

ANSWER 32 OF 212 CAPLUS COPYRIGHT 2007 ACS on STN

ACCESSION NUMBER:

2006:593396 CAPLUS

DOCUMENT NUMBER:

145:210696

TITLE:

Applications of Asymmetric Hydrosilylations Mediated

by Catalytic (DTBM-SEGPHOS) CuH

AUTHOR(S):

Lipshutz, Bruce H.; Lower, Asher; Kucejko, Robert J.;

Noson, Kevin

CORPORATE SOURCE:

Department of Chemistry Biochemistry, University of

California, Santa Barbara, CA, 93106, USA Organic Letters (2006), 8(14), 2969-2972

CODEN: ORLEF7; ISSN: 1523-7060

PUBLISHER:

SOURCE:

American Chemical Society

DOCUMENT TYPE:

Journal

LANGUAGE:

English

OTHER SOURCE(S):

CASREACT 145:210696

Several aryl ketones R1COR2 (R1 = Ph, 3-F3CC6H4, 2,4-C12C6H3, 2-thiazolyl, etc.; R2 = Me, ClCH2CH2, PhCH2, etc.), useful as precursors in the synthesis of known physiol. active compds., have been reduced to the corresponding nonracemic alcs. The previously reported combination of a catalytic quantity of (R)-(-)-DTBM-SEGPHOS-ligated CuH and stoichiometric polymethylhydrosiloxane is shown to be very effective in these asym. hydrosilylations.

IT 394248-45-4

RL: CAT (Catalyst use); USES (Uses)

(asym. synthesis of secondary alcs. as precursors to physiol. active compds. via copper-diphosphine-catalyzed enantioselective hydrosilylation of aryl and heteroaryl ketones)

RN 394248-45-4 CAPLUS

Phosphine, [(1R)-6,6'-dimethoxy[1,1'-biphenyl]-2,2'-diyl]bis[bis(3,5-CN dimethylphenyl) - (9CI) (CA INDEX NAME)

28 THERE ARE 28 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L3 ANSWER 33 OF 212 CAPLUS COPYRIGHT 2007 ACS on STN

ACCESSION NUMBER:

2006:433679 CAPLUS

DOCUMENT NUMBER:

145:82847

TITLE:

Use of 1H NMR chemical shifts to determine the absolute configuration and enantiomeric purity for enantiomers of 3,3'-disubstituted-MeO-BIPHEP

derivatives

AUTHOR(S):

Gorobets, Evgueni; Parvez, Masood; Wheatley, Bronwen

M. M.; Keay, Brian A.

CORPORATE SOURCE:

Department of Chemistry, University of Calgary,

Calgary, AB, T2N 1N4, Can.

SOURCE:

Canadian Journal of Chemistry (2006), 84(2), 93-98

CODEN: CJCHAG; ISSN: 0008-4042

PUBLISHER:

National Research Council of Canada

DOCUMENT TYPE:

Journal

LANGUAGE:

English

GI

The absolute configuration of a series of 3,3'-disubstituted-MeO-BIPHEP derivs. (I; R= H, MeO,i-PrO,o-t-Bu,OPiv, Otolyl, i-Pr,Ph,mesityl) can be determined by the 1H NMR chemical shift of the methoxyl group when the 3,3'-disubstituted-MeO-BIPHEP derivative is mixed with (-)-(2R,3R)-dibenzoyltartaric acid ((-)-DBTA) (1:2) and its NMR spectrum is run in CDC13. The chemical shift of the methoxyl group in the Sax enantiomer always

occurred at higher field than the corresponding Rax enantiomer. Integration of the corresponding methoxyl signals provides the enantiomeric purity of any mixts.

IT 133577-82-9 133577-84-1

RL: PRP (Properties)

(use of 1H NMR chemical shifts to determine absolute configuration and enantiomeric

purity for enantiomers of 3,3'-disubstituted-MeO-BIPHEP derivs.)

RN 133577-82-9 CAPLUS

CN Phosphine oxide, (6,6'-dimethoxy[1,1'-biphenyl]-2,2'-diyl)bis[diphenyl-, (1R)- (9CI) (CA INDEX NAME)

RN .133577-84-1 CAPLUS

CN Phosphine oxide, [(1S)-6,6'-dimethoxy[1,1'-biphenyl]-2,2'-diyl]bis[diphenyl- (9CI) (CA INDEX NAME)

IT 894100-06-2P 894100-13-1P

RL: PRP (Properties); PUR (Purification or recovery); SPN (Synthetic preparation); PREP (Preparation)

(use of 1H NMR chemical shifts to determine absolute configuration and enantiomeric

purity for enantiomers of 3,3'-disubstituted-MeO-BIPHEP derivs.)

RN 894100-06-2 CAPLUS

CN Butanedioic acid, 2,3-bis(benzoyloxy)-, (2R,3R)-, compd. with (1R)-(6,6'-dimethoxy[1,1'-biphenyl]-2,2'-diyl)bis[diphenylphosphine oxide] (2:1) (9CI) (CA INDEX NAME)

CM 1

CRN 133577-82-9 CMF C38 H32 O4 P2

CM 2

CRN 2743-38-6 CMF C18 H14 O8

Absolute stereochemistry. Rotation (-).

RN 894100-13-1 CAPLUS

CN Butanedioic acid, 2,3-bis(benzoyloxy)-, (2R,3R)-, compd. with [(1S)-6,6'-dimethoxy[1,1'-biphenyl]-2,2'-diyl]bis[diphenylphosphine oxide] (2:1) (9CI) (CA INDEX NAME)

CM 1

CRN 133577-84-1 CMF C38 H32 O4 P2

CM 2

CRN 2743-38-6 CMF C18 H14 O8

Absolute stereochemistry. Rotation (-).

IT 133545-15-0

RL: RCT (Reactant); RACT (Reactant or reagent)

(use of 1H NMR chemical shifts to determine absolute configuration and enantiomeric $% \left(1\right) =\left(1\right) +\left(1\right)$

purity for enantiomers of 3,3'-disubstituted-MeO-BIPHEP derivs.)

RN 133545-15-0 CAPLUS

CN Phosphine oxide, (6,6'-dimethoxy[1,1'-biphenyl]-2,2'-diyl)bis[diphenyl-(9CI) (CA INDEX NAME)

IT 133545-16-1

RL: RGT (Reagent); RACT (Reactant or reagent)

(use of $1\bar{\mathrm{H}}$ NMR chemical shifts to determine absolute configuration and enantiomeric

purity for enantiomers of 3,3'-disubstituted-MeO-BIPHEP derivs.)

RN 133545-16-1 CAPLUS

CN Phosphine, 1,1'-[(1R)-6,6'-dimethoxy[1,1'-biphenyl]-2,2'-diyl]bis[1,1-diphenyl- (CA INDEX NAME)

THERE ARE 12 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L3 ANSWER 34 OF 212 CAPLUS COPYRIGHT 2007 ACS on STN

ACCESSION NUMBER:

2006:354249 CAPLUS

DOCUMENT NUMBER:

145:45906

TITLE:

Asymmetric hydrogenation of quinolines and

isoquinolines activated by chloroformates

AUTHOR(S):

Lu, Sheng-Mei; Wang, You-Qing; Han, Xiu-Wen; Zhou,

Yong-Gui

CORPORATE SOURCE:

State Key Laboratory of Catalysis Dalian Institute of Chemical Physics, Chinese Academy of Sciences, Dalian,

116023, Peop. Rep. China

SOURCE:

Angewandte Chemie, International Edition (2006),

45(14), 2260-2263

CODEN: ACIEF5; ISSN: 1433-7851 Wiley-VCH Verlag GmbH & Co. KGaA

DOCUMENT TYPE:

Journal

LANGUAGE:

PUBLISHER:

English

OTHER SOURCE(S):

CASREACT 145:45906

AB Optically active tetrahydroquinolines and tetrahydroisoquinolines can be obtained by the asym. hydrogenation of quinolines and isoquinolines with chloroformates as the activating reagent (e.g., ClCO2Bn). The method has been applied to the asym. synthesis of several naturally occurring alkaloids.

IT 133545-16-1, (R)-MeO-biphep

RL: CAT (Catalyst use); USES (Uses)

(enantioselective iridium-catalyzed hydrogenation of quinolines and isoquinolines using chloroformates as activating agents)

RN 133545-16-1 CAPLUS

CN Phosphine, 1,1'-[(1R)-6,6'-dimethoxy[1,1'-biphenyl]-2,2'-diyl]bis[1,1-diphenyl- (CA INDEX NAME)

THERE ARE 43 CITED REFERENCES AVAILABLE FOR THIS 43 RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

CAPLUS COPYRIGHT 2007 ACS on STN ANSWER 35 OF 212

ACCESSION NUMBER:

2006:328224 CAPLUS

DOCUMENT NUMBER:

145:62371

TITLE:

A new class of versatile chiral-bridged atropisomeric

diphosphine ligands: remarkably efficient ligand

syntheses and their applications in highly enantioselective hydrogenation reactions

AUTHOR(S):

Qiu, Liqin; Kwong, Fuk Yee; Wu, Jing; Lam, Wai Har;

Chan, Shusun; Yu, Wing-Yiu; Li, Yue-Ming; Guo,

Rongwei; Zhou, Zhongyuan; Chan, Albert S. C.

CORPORATE SOURCE:

Open Laboratory of Chirotechnology of the Institute of

Molecular Technology for Drug Discovery and Synthesis

and Department of Applied Biology and Chemical Technology, Hong Kong Polytechnic University, Hong

Kong, Hong Kong

SOURCE:

Journal of the American Chemical Society (2006),

128(17), 5955-5965

CODEN: JACSAT; ISSN: 0002-7863

PUBLISHER:

American Chemical Society

DOCUMENT TYPE:

Journal English LANGUAGE:

GΙ

* STRUCTURE DIAGRAM TOO LARGE FOR DISPLAY - AVAILABLE VIA OFFLINE PRINT *

A series of chiral diphosphine ligands denoted as PQ-Phos (I, II, and III; n = 0, 1, 2) was prepared by atropdiastereoselective Ullmann coupling and ring-closure reactions. The Ullmann coupling reaction of the biaryl diphosphine dioxides (IV; n = same as above) is featured by highly efficient central-to-axial chirality transfer with diastereomeric excess >99%. This substrate-directed diastereomeric biaryl coupling reaction is unprecedented for the preparation of chiral diphosphine dioxides, and our method precludes the tedious resolution procedures usually required for preparing enantiomerically pure diphosphine ligands. The effect of chiral recognition was also revealed in a relevant asym. ring-closure reaction of (S)- or (R)-HO-BIPHEPO (V) or (VI) with chiral alkanediol dimesylate or ditosylate (VII; R = Ms, n = 0; R = Ts, n = 1 or 2). The chiral tether bridging the two aryl units creates a conformationally rigid scaffold essential for enantiofacial differentiation; fine-tuning of the ligand scaffold (e.g., dihedral angles) can be achieved by varying the chain

length of the chiral tether. The enantiomerically pure Ru- and Ir-PQ-Phos complexes have been prepared and applied to the catalytic enantioselective hydrogenations of α - and β -ketoesters (C:O bond reduction) of formula R1COCO2R2 (R1 = Me or Ph, R2 = Me; R1 = Me, iso-Pr, Ph, or PhCH2CH2) and R1COCHR2CO2R3 (R1 = Me, R2 = H, R3 = Me, Et, or CH2Ph; R1 = C1CH2 or Ph, R2 = H, R3 = Et; R1 = Ph, R2 = C1, R3 = Et) to chiral α - or β -hydroxy esters of formula R1CH(OH)CO2R2 and R1CH(OH)CHR2CO2R3, 2-(6'-methoxy-2'-naphthyl)propenoic acid, alkyl-substituted β -dehydroamino acids (C:C bond reduction) of formula R2O2CCH:C(R1)NHAc (R1 = Me, Et, iso-Pr, or tert-Bu, R2 = me; R1 = Me or n-Pr, R2 = Et) to chiral β -amino acid esters of formula R202CCH2CHC(R1)NHAc, and N-heteroarom. compds. (C:N bond reduction) (VIII; R1 = Me, R2 = Me, H, MeO; R1 = Ph, R2 = H), (IX), and (X) to chiral heterocyclic compds. (XI), (XII), and (XIII). An excellent level of enantioselection (up to 99.9% ee) has been attained for the catalytic reactions. In addition, the significant ligand dihedral angle effects on the Ir-catalyzed asym. hydrogenation of N-heteroarom. compds. were also revealed.

IT 133577-84-1DP, ruthenium complexes
 RL: CAT (Catalyst use); SPN (Synthetic preparation); PREP (Preparation);
 USES (Uses)

(preparation of versatile chiral-bridged atropisomeric diphosphine ligands by stereoselective ring-closure of (S)- or (R)-HO-BIPHEPO with chiral alkanediol dimesylate or ditosylate)

RN 133577-84-1 CAPLUS

CN Phosphine oxide, [(1S)-6,6'-dimethoxy[1,1'-biphenyl]-2,2'-diyl]bis[diphenyl- (9CI) (CA INDEX NAME)

CN Phosphine oxide, (6,6'-dimethoxy[1,1'-biphenyl]-2,2'-diyl)bis[diphenyl-, (1R)- (9CI) (CA INDEX NAME)

RN 133577-84-1 CAPLUS
CN Phosphine oxide, [(1S)-6,6'-dimethoxy[1,1'-biphenyl]-2,2'-diyl]bis[diphenyl- (9CI) (CA INDEX NAME)

IT 524711-75-9P 679422-50-5P

RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)

(preparation of versatile chiral-bridged atropisomeric diphosphine ligands by stereoselective ring-closure of (S)- or (R)-HO-BIPHEPO with chiral alkanediol dimesylate or ditosylate)

RN 524711-75-9 CAPLUS

CN [1,1'-Biphenyl]-2,2'-diol, 6,6'-bis(diphenylphosphinyl)-, (1R)- (9CI) (CA INDEX NAME)

RN 679422-50-5 CAPLUS

CN [1,1'-Biphenyl]-2,2'-diol, 6,6'-bis(diphenylphosphinyl)-, (1S)- (9CI) (CA INDEX NAME)

130 THERE ARE 130 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE REFORMAT

L3 ANSWER 36 OF 212 CAPLUS COPYRIGHT 2007 ACS on STN

ACCESSION NUMBER:

CORPORATE SOURCE:

2006:315212 CAPLUS

DOCUMENT NUMBER:

145:8411

TITLE:

Rhodium-catalyzed asymmetric hydrogenation through dynamic kinetic resolution: asymmetric synthesis of

anti- β -hydroxy- α -amino acid esters

AUTHOR(S):

Makino, Kazuishi; Fujii, Takefumi; Hamada, Yasumasa

Graduate School of Pharmaceutical Sciences, Chiba

University, Chiba, 263-8522, Japan

SOURCE:

Tetrahedron: Asymmetry (2006), 17(4), 481-485

CODEN: TASYE3; ISSN: 0957-4166

PUBLISHER:

Elsevier B.V.

DOCUMENT TYPE:

Journal

LANGUAGE:

English

OTHER SOURCE(S):

CASREACT 145:8411

GI

Rhodium-catalyzed asym. hydrogenation of α -amino- β -keto ester hydrochlorides through dynamic kinetic resolution is described. The hydrogenation proceeds with the catalyst derived from a Rh complex and a chiral ferrocenylphosphine under hydrogen in the presence of sodium acetate in acetic acid to afford anti- β -hydroxy- α -amino acid esters with 58-83% enantiomeric excess in a diastereomeric ratio of 92:8-97:3. For example, keto amino ester hydrochloride I was hydrogenated in presence of catalyst [Rh(nbd)2]BF4 with chiral ligand [(R,S)-1-[bis(tert-butyl)phosphino]ethyl]-2-(diphenylphosphino)ferrocene at 23° in AcOH/AcONa, followed by reaction with benzoic acid anhydride, to give hydroxy amino ester II in 61% yield in a 97:3 anti:syn ratio.

IT 133545-17-2

RL: CAT (Catalyst use); USES (Uses)

(ligand for rhodium catalyst; preparation of hydroxy amino acid esters from their keto precursors via asym. hydrogenation with rhodium catalysts)

133545-17-2 CAPLUS RN

Phosphine, 1,1'-[(1S)-6,6'-dimethoxy[1,1'-biphenyl]-2,2'-diyl]bis[1,1-CN diphenyl- (CA INDEX NAME)

OMe

REFERENCE COUNT:

THERE ARE 18 CITED REFERENCES AVAILABLE FOR THIS 18 RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

ANSWER 37 OF 212 CAPLUS COPYRIGHT 2007 ACS on STN

ACCESSION NUMBER:

2006:277847 CAPLUS

DOCUMENT NUMBER:

146:295575

TITLE:

Enabling ligand screening for palladium-catalyzed enantioselective aza-Michael addition reactions

AUTHOR(S):

Phua, Pim Huat; White, Andrew J. P.; de Vries,

Johannes G.; Hii, King Kuok

CORPORATE SOURCE:

Department of Chemistry, Imperial College London,

South Kensington, London, SW7 2AZ, UK

SOURCE:

Advanced Synthesis & Catalysis (2006), 348(4 + 5),

587-592

CODEN: ASCAF7; ISSN: 1615-4150 Wiley-VCH Verlag GmbH & Co. KGaA

PUBLISHER:

Journal

DOCUMENT TYPE: LANGUAGE: English

The bis(trifluoromethanesulfonate)palladium(II) dihydrate complex, Pd(OTf)2.2 H2O (I), is an active palladium(II) precursor for the generation of dicationic palladium(II) catalysts. Parallel ligand screening is carried out for the first time and twenty-four chiral ligands were evaluated for the asym. aza-Michael addition of aromatic amines to (1-oxo-2-alkenyl) carbamic acid tert-Bu esters and N-[(2E)-1-oxo-2alkenyl]benzamide derivs. Enantioselectivity of >99% can be obtained. Catalytic precursors generated from I using this new protocol have been identified.

133545-16-1, (R)-MeOBIPHEP 185913-97-7, (R)-ClMeOBIPHEP IT

RL: CAT (Catalyst use); USES (Uses)

(parallel ligand screening for stereoselective aza-Michael addition of aromatic amines to N-[(oxo)alkenyl]benzamide and N-(oxo)alkenyl]carbamate derivs. using in-situ-generated dicationic palladium(II) derivs. as catalysts)

133545-16-1 CAPLUS RN

Phosphine, 1,1'-[(1R)-6,6'-dimethoxy[1,1'-biphenyl]-2,2'-diyl]bis[1,1-CN diphenyl- (CA INDEX NAME)

185913-97-7 CAPLUS RN

Phosphine, [(1R)-5,5'-dichloro-6,6'-dimethoxy[1,1'-biphenyl]-2,2'-CN diyl]bis[diphenyl- (9CI) (CA INDEX NAME)

REFERENCE COUNT:

THERE ARE 18 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

ANSWER 38 OF 212 CAPLUS COPYRIGHT 2007 ACS on STN

18

ACCESSION NUMBER:

2006:219844 CAPLUS

DOCUMENT NUMBER:

146:62793

TITLE:

Improvement on the synthesis of chiral biphenyl

diphosphine ligands

AUTHOR(S):

Fang, Chun-Mei; Ma, Meng-Lin; Zheng, Xue-Li; Guo, Yu;

Peng, Zong-Hai; Chen, Hua; Li, Xian-Jun

CORPORATE SOURCE:

Key Laboratory of Green Chemistry and Technology of

Ministry of Education, Institute of Homogeneous Catalysis, Department of Chemistry, Sichuan University, Chengdu, 610064, Peop. Rep. China

Youji Huaxue (2006), 26(2), 252-255 SOURCE:

CODEN: YCHHDX; ISSN: 0253-2786

PUBLISHER:

DOCUMENT TYPE:

Youji Huaxue Bianjibu Journal

Chinese

LANGUAGE:

OTHER SOURCE(S):

CASREACT 146:62793

The chiral diphosphines, R- and S-(6,6'-dimethoxy)-2,2'bis(diarylphosphino)-1,1'-biphenyl, (aryl = Ph, 4-C6H4OMe) have been prepared with six steps from com. available 3-bromoanisole by a concise synthetic route. This approach was also an efficient synthetic method for biphenyl diphosphines with different diarylphosphino groups.

133577-82-9P 133577-84-1P 145265-43-6P IT

145265-44-7P

RL: PUR (Purification or recovery); RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)

(preparation of chiral biphenyl diphosphine ligands starting from bromoanisole)

RN 133577-82-9 CAPLUS

CN Phosphine oxide, (6,6'-dimethoxy[1,1'-biphenyl]-2,2'-diyl)bis[diphenyl-, (1R)- (9CI) (CA INDEX NAME)

RN 133577-84-1 CAPLUS

CN Phosphine oxide, [(1S)-6,6'-dimethoxy[1,1'-biphenyl]-2,2'-diyl]bis[diphenyl- (9CI) (CA INDEX NAME)

RN 145265-43-6 CAPLUS

CN Phosphine oxide, (6,6'-dimethoxy[1,1'-biphenyl]-2,2'-diyl)bis[bis(4-methoxyphenyl)-, (R)- (9CI) (CA INDEX NAME)

RN 145265-44-7 CAPLUS

CN Phosphine oxide, (6,6'-dimethoxy[1,1'-biphenyl]-2,2'-diyl)bis[bis(4-methoxyphenyl)-, (S)- (9CI) (CA INDEX NAME)

IT 133545-15-0P 145209-14-9P 145209-18-3P

145209-27-4P

RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)

(preparation of chiral biphenyl diphosphine ligands starting from bromoanisole)

RN 133545-15-0 CAPLUS

CN Phosphine oxide, (6,6'-dimethoxy[1,1'-biphenyl]-2,2'-diyl)bis[diphenyl-(9CI) (CA INDEX NAME)

RN 145209-14-9 CAPLUS

CN Phosphonic acid, (6,6'-dimethoxy[1,1'-biphenyl]-2,2'-diyl)bis-, tetraethyl ester (9CI) (CA INDEX NAME)

RN 145209-18-3 CAPLUS

CN Phosphonic dichloride, (6,6'-dimethoxy[1,1'-biphenyl]-2,2'-diyl)bis- (9CI) (CA INDEX NAME)

RN 145209-27-4 CAPLUS

CN Phosphine oxide, (6,6'-dimethoxy[1,1'-biphenyl]-2,2'-diyl)bis[bis(4-methoxyphenyl)- (9CI) (CA INDEX NAME)

PAGE 2-A

PAGE 3-A

- IT 133545-16-1P 133545-17-2P 145265-41-4P
 - 145265-42-5P
 - RL: SPN (Synthetic preparation); PREP (Preparation)

(preparation of chiral biphenyl diphosphine ligands starting from bromoanisole)

- RN 133545-16-1 CAPLUS
- CN Phosphine, 1,1'-[(1R)-6,6'-dimethoxy[1,1'-biphenyl]-2,2'-diyl]bis[1,1-diphenyl- (CA INDEX NAME)

RN 133545-17-2 CAPLUS
CN Phosphine, 1,1'-[(1S)-6,6'-dimethoxy[1,1'-biphenyl]-2,2'-diyl]bis[1,1-diphenyl- (CA INDEX NAME)

RN 145265-41-4 CAPLUS
CN Phosphine, (6,6'-dimethoxy[1,1'-biphenyl]-2,2'-diyl)bis[bis(4-methoxyphenyl)-, (R)- (9CI) (CA INDEX NAME)

PAGE 2-A

| OMe

RN 145265-42-5 CAPLUS
CN Phosphine, [(1S)-6,6'-dimethoxy[1,1'-biphenyl]-2,2'-diyl]bis[bis(4-methoxyphenyl)- (9CI) (CA INDEX NAME)

PAGE 2-A

OMe

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CAPLUS COPYRIGHT 2007 ACS on STN
    ANSWER 39 OF 212
L3
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ACCESSION NUMBER:

2006:208444 CAPLUS

TITLE:

144:450471

DOCUMENT NUMBER:

Diastereospecific Intramolecular Ullmann Couplings:

Unique Chiral Auxiliary for the Preparation of

3,3'-Disubstituted MeO-BIPHEP Derivatives Gorobets, E.; McDonald, R.; Keay, B. A.

AUTHOR(S): CORPORATE SOURCE:

Department of Chemistry, University of Calgary,

Calgary, T2N 1N4, Can.

SOURCE:

Organic Letters (2006), 8(7), 1483-1485

CODEN: ORLEF7; ISSN: 1523-7060

PUBLISHER:

American Chemical Society

DOCUMENT TYPE:

Journal

English LANGUAGE:

A chiral auxiliary is described that provides only one diastereomer during intramol. Ullmann couplings. Treatment of five Ullmann coupling

precursors with Cu powder in DMF at 115 °C provides

2,2',3,3',6,6'-hexasubstituted 1,1'-biphenyls as single diastereomers in yields ranging from 66% to 91%.

IT 133577-84-1P

RL: SPN (Synthetic preparation); PREP (Preparation)

(preparation of 3,3'-disubstituted MeO-BIPHEP derivs. by diastereospecific intramol. Ullmann couplings using a unique chiral auxiliary)

133577-84-1 CAPLUS RN

Phosphine oxide, [(1S)-6,6'-dimethoxy[1,1'-biphenyl]-2,2'-CN diyl]bis[diphenyl- (9CI) (CA INDEX NAME)

THERE ARE 26 CITED REFERENCES AVAILABLE FOR THIS 26 RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

CAPLUS COPYRIGHT 2007 ACS on STN ANSWER 40 OF 212

ACCESSION NUMBER:

2006:198021 CAPLUS

DOCUMENT NUMBER:

144:432534

TITLE:

Highly diastereo- and enantioselective

copper-catalyzed domino reduction/aldol reaction of

ketones with methyl acrylate

AUTHOR(S):

Deschamp, Julia; Chuzel, Olivier; Hannedouche, Jerome;

Riant, Olivier

CORPORATE SOURCE:

Unite de chimie organique et medicinale, Universite catholique de Louvain, Louvain-la-Neuve, 1348, Belg.

SOURCE:

Angewandte Chemie, International Edition (2006),

45(8), 1292-1297

CODEN: ACIEF5; ISSN: 1433-7851 Wiley-VCH Verlag GmbH & Co. KGaA

PUBLISHER: DOCUMENT TYPE: LANGUAGE:

Journal English

OTHER SOURCE(S):

CASREACT 144:432534

A new catalytic method was found for the construction of stereogenic quaternary carbon centers through a copper-catalyzed domino conjugated reduction/aldol reaction of Me acrylate with various alkyl aryl ketones. The proper choice of the chiral diphosphine ligand leads to high chemo-, diastereo-, and enantioselectivity. 133545-17-2 362634-28-4

IT

RL: CAT (Catalyst use); USES (Uses)

(stereoselective copper-catalyzed domino reduction/aldol reaction of ketones with Me acrylate)

RN 133545-17-2 CAPLUS

Phosphine, 1,1'-[(1S)-6,6'-dimethoxy[1,1'-biphenyl]-2,2'-diyl]bis[1,1-CN diphenyl- (CA INDEX NAME)

RN 362634-28-4 CAPLUS

CN Phosphine, [(1S)-6,6'-dimethoxy[1,1'-biphenyl]-2,2'-diyl]bis[bis[3,5-bis(1-methylethyl)phenyl]- (9CI) (CA INDEX NAME)

REFERENCE COUNT:

119 THERE ARE 119 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE REFORMAT

L3 ANSWER 41 OF 212 CAPLUS COPYRIGHT 2007 ACS on STN

ACCESSION NUMBER:

2006:198011 CAPLUS

DOCUMENT NUMBER:

144:411933

TITLE:

Copper-in-charcoal (Cu/C): heterogeneous, copper-catalyzed asymmetric hydrosilylations

AUTHOR(S):

Lipshutz, Bruce H.; Frieman, Bryan A.; Tomaso, Anthony

E., Jr.

CORPORATE SOURCE:

Department of Chemistry and Biochemistry, University

of California, Santa Barbara, CA, 93106, USA

SOURCE:

Angewandte Chemie, International Edition (2006),

45(8), 1259-1264

CODEN: ACIEF5; ISSN: 1433-7851 Wiley-VCH Verlag GmbH & Co. KGaA

DOCUMENT TYPE:

Journal

LANGUAGE:

PUBLISHER:

English

OTHER SOURCE(S):

CASREACT 144:411933

AB Copper-in charcoal (Cu/C) is introduced as an easily prepared catalyst that is readily converted in situ into a nonracemically ligated form of copper hydride that effects asym. hydrosilylations.

IT 394248-45-4

RL: CAT (Catalyst use); USES (Uses)

(copper-in-charcoal as heterogeneous catalyst in asym.

hydrosilylations)

RN 394248-45-4 CAPLUS

CN Phosphine, [(1R)-6,6'-dimethoxy[1,1'-biphenyl]-2,2'-diyl]bis[bis(3,5-dimethylphenyl)- (9CI) (CA INDEX NAME)

REFERENCE COUNT: 55 THERE ARE 55 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L3 ANSWER 42 OF 212 CAPLUS COPYRIGHT 2007 ACS on STN

ACCESSION NUMBER: 2006:188829 CAPLUS

DOCUMENT NUMBER:

144:432637

TITLE:

Phosphine-catalyzed enantioselective [3+2] annulations

of 2,3-butadienoates with imines Jean, Ludovic; Marinetti, Angela

AUTHOR(S): CORPORATE SOURCE:

Institut de Chimie des Substances Naturelles-CNRS UPR

2301, Gif-sur-Yvette, 91198, Fr.

SOURCE:

Tetrahedron Letters (2006), 47(13), 2141-2145

CODEN: TELEAY; ISSN: 0040-4039

PUBLISHER:

Elsevier B.V.

DOCUMENT TYPE:

Journal

LANGUAGE:

English

DELIED COURCE (C)

inglish

OTHER SOURCE(S):

CASREACT 144:432637

AB The systematic screening of chiral phosphines in the cycloaddn. reaction between 2,3-butadienoates and arylimines has led to the identification of fairly efficient catalysts. 2-Aryl-3-pyrrolines were obtained with enantiomeric excesses ≤ 64%. In one instance, the enantiomeric excess could be increased to 91% ee by combining the enantioselective cyclization reaction with a crystallization step.

IT 133545-16-1, (R)-MeO-BIPHEP

RL: CAT (Catalyst use); USES (Uses)

(phosphine-catalyzed enantioselective [3+2] annulations of 2,3-butadienoates with imines)

RN 133545-16-1 CAPLUS

CN Phosphine, 1,1'-[(1R)-6,6'-dimethoxy[1,1'-biphenyl]-2,2'-diyl]bis[1,1-diphenyl- (CA INDEX NAME)

THERE ARE 24 CITED REFERENCES AVAILABLE FOR THIS 24 RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

ANSWER 43 OF 212 CAPLUS COPYRIGHT 2007 ACS on STN

ACCESSION NUMBER:

2006:123945 CAPLUS

DOCUMENT NUMBER:

144:369746

TITLE:

Rhodium-Catalyzed Asymmetric Synthesis of Indanones:

Development of a New "Axially Chiral" Bisphosphine

Ligand

AUTHOR(S):

Shintani, Ryo; Yashio, Keiji; Nakamura, Tomoaki; Okamoto, Kazuhiro; Shimada, Toyoshi; Hayashi, Tamio Department of Chemistry, Graduate School of Science,

CORPORATE SOURCE:

Kyoto University, Kyoto, 606-8502, Japan

SOURCE:

Journal of the American Chemical Society (2006),

128(9), 2772-2773

CODEN: JACSAT; ISSN: 0002-7863

PUBLISHER:

American Chemical Society

DOCUMENT TYPE:

Journal

LANGUAGE:

English

OTHER SOURCE(S):

CASREACT 144:369746

A rhodium-catalyzed asym. isomerization of racemic α -arylpropargyl alcs. to β -chiral indanones has been developed. High enantioselectivity has been realized by the use of a newly developed axially chiral bisphosphine ligand. This ligand is unique in the sense that its axial chirality is fixed to a single configuration upon complexation to a transition metal due to other chiral axes existing within the same mol.

IT133545-16-1, (R)-MeO-Biphep

RL: CAT (Catalyst use); USES (Uses)

(rhodium-catalyzed asym. synthesis of indanones using an axially chiral bisphosphine ligand)

133545-16-1 CAPLUS RN

Phosphine, 1,1'-[(1R)-6,6'-dimethoxy[1,1'-biphenyl]-2,2'-diyl]bis[1,1-CN diphenyl- (CA INDEX NAME)

28 THERE ARE 28 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

ANSWER 44 OF 212 CAPLUS COPYRIGHT 2007 ACS on STN

ACCESSION NUMBER:

2006:88172 CAPLUS

DOCUMENT NUMBER:

145:396761

TITLE:

Dendritic BIPHEP: Synthesis and application in

asymmetric hydrogenation of β-keto esters

AUTHOR(S):

Deng, Guo-Jun; Li, Guo-Rui; Zhu, Ling-Yun; Zhou,

Hai-Feng; He, Yan-Mei; Fan, Qing-Hua; Shuai, Zhi-Gang Laboratory of Chemical Biology, Center for Molecular

CORPORATE SOURCE:

Science, Institute of Chemistry, Chinese Academy of

Sciences, Beijing, 100080, Peop. Rep. China

SOURCE:

Journal of Molecular Catalysis A: Chemical (2006),

244(1-2), 118-123

CODEN: JMCCF2; ISSN: 1381-1169

PUBLISHER:

Elsevier B.V.

DOCUMENT TYPE:

Journal

LANGUAGE: English

A series of new chiral dendritic biphenyldiphosphine ligands were prepared and their applications in the Ru-catalyzed asym. hydrogenation of β -keto esters were investigated. Ruthenium catalysts containing these dendrimer ligands were effective in the hydrogenation of β -keto esters. The size of the dendritic wedges influenced the enantioselectivity significantly.

151395-63-0P 911438-21-6P 911438-22-7P IT

> RL: CAT (Catalyst use); SPN (Synthetic preparation); PREP (Preparation); USES (Uses)

(preparation of dendritic biphenyldiphosphine ligands for ruthenium-catalyzed asym. hydrogenation of β -keto esters)

151395-63-0 CAPLUS RN

Phosphine, [(1R)-6,6'-bis(phenylmethoxy)[1,1'-biphenyl]-2,2'-CN diyl]bis[diphenyl- (9CI) (CA INDEX NAME)

RN 911438-21-6 CAPLUS

CN Phosphine, [(1R)-6,6'-bis[[3,5-bis(phenylmethoxy)phenyl]methoxy][1,1'-

RN 911438-22-7 CAPLUS

CN Phosphine, [(1R)-6,6'-bis[[3,5-bis[[3,5-bis(phenylmethoxy)phenyl]methoxy]phenyl]methoxy][1,1'-biphenyl]-2,2'-diyl]bis[diphenyl- (9CI) (CA INDEX NAME)

PAGE 1-A

PAGE 2-B

IT 151395-61-8

RL: RCT (Reactant); RACT (Reactant or reagent) (preparation of dendritic biphenyldiphosphine ligands for ruthenium-catalyzed asym. hydrogenation of β -keto esters)

RN 151395-61-8 CAPLUS

CN [1,1'-Biphenyl]-2,2'-diol, 6,6'-bis(diphenylphosphino)-, (1R)- (CA INDEX NAME)

IT 524711-75-9P 911438-18-1P 911438-19-2P

911438-20-5P

RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)

(preparation of dendritic biphenyldiphosphine ligands for ruthenium-catalyzed asym. hydrogenation of β -keto esters)

RN 524711-75-9 CAPLUS

CN [1,1'-Biphenyl]-2,2'-diol, 6,6'-bis(diphenylphosphinyl)-, (1R)- (9CI) (CA INDEX NAME)

RN 911438-18-1 CAPLUS

CN Phosphine oxide, [(1R)-6,6'-bis[[3,5-bis(phenylmethoxy)phenyl]methoxy][1,1 '-biphenyl]-2,2'-diyl]bis[diphenyl- (9CI) (CA INDEX NAME)

RN 911438-19-2 CAPLUS

PAGE 2-B

RN 911438-20-5 CAPLUS CN Phosphine oxide, [(1R)-6,6'-bis(phenylmethoxy)[1,1'-biphenyl]-2,2'-

70 THERE ARE 70 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L3 ANSWER 45 OF 212 CAPLUS COPYRIGHT 2007 ACS on STN

ACCESSION NUMBER:

2006:734 CAPLUS

DOCUMENT NUMBER:

144:233136

TITLE:

A synthetic approach to macrocyclic, chiral phosphane

derivatives with crown-ether-like structures

AUTHOR(S): Theil, Agnes; Hitce, Julien; Retailleau, Pascal;

Marinetti, Angela

CORPORATE SOURCE:

Institut de Chimie des Substances Naturelles CNRS UPR

2301, Gif-sur-Yvette, 91198, Fr.

SOURCE:

European Journal of Organic Chemistry (2005), Volume

Date 2006, (1), 154-161

CODEN: EJOCFK; ISSN: 1434-193X Wiley-VCH Verlag GmbH & Co. KGaA

DOCUMENT TYPE:

Journal

LANGUAGE:

PUBLISHER:

English

OTHER SOURCE(S):

CASREACT 144:233136

AB (S,S)-Bis(2-hydroxypropyl) (phenyl)phosphine oxide was prepared, either by ring-opening of (S)-propylene oxide with dilithio(phenyl)phosphine or by catalytic hydrogenation of bis(2-oxopropyl) (phenyl)phosphine oxide, promoted by Ru/(S)-MeO-BIPHEP. Catalytic hydrogenation also allowed the enantioselective synthesis of (R,R)-bis(2-phenyl-2-hydroxyethyl) (phenyl)phosphine oxide from the corresponding diketone. These bis(β-hydroxyalkyl)phosphine derivs. are suitable chiral starting materials for the synthesis of 1-phospha-10-aza-18-crown-6 derivs., the 1st examples of optically pure, crown-ether-like, P-containing macrocycles. One of them was characterized by x-ray diffraction study. Complexation of Na+ by the crown ether moiety of the macrocyclic ring was observed by 1H NMR anal.

IT 133545-17-2

RL: CAT (Catalyst use); USES (Uses)

(synthetic approach to macrocyclic, chiral phosphine derivs. with crown-ether-like structures)

RN 133545-17-2 CAPLUS

CN Phosphine, 1,1'-[(1S)-6,6'-dimethoxy[1,1'-biphenyl]-2,2'-diyl]bis[1,1-diphenyl- (CA INDEX NAME)

REFERENCE COUNT:

THERE ARE 66 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L3 ANSWER 46 OF 212 CAPLUS COPYRIGHT 2007 ACS on STN

ACCESSION NUMBER:

2005:1346101 CAPLUS

DOCUMENT NUMBER:

144:94331

TITLE:

Novel stable compositions of water and oxygen

sensitive compounds and their method of preparation

INVENTOR(S): Taber, Douglass F.; Li, Hui-Yin

USA

PATENT ASSIGNEE(S):

SOURCE:

U.S. Pat. Appl. Publ., 12 pp.

CODEN: USXXCO

DOCUMENT TYPE:

LANGUAGE:

Patent

English

FAMILY ACC. NUM. COUNT:

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
US 2005288257	A1	20051229	US 2005-166937	20050623
PRIORITY APPLN. INFO.:			US 2004-583054P P	20040625

OTHER SOURCE(S):

MARPAT 144:94331

AB The present application described a new formulation for oxygen and/or water sensitive compds. with an inert material such as paraffin. The new formulation provides stability for the oxygen and/or water sensitive compds. in the air and can be handled easily. The new formulation of the present invention is useful as ligands and/or catalysts for preparation of pharmaceuticals, agrochem., other fine chems. and other synthetic compds.

IT 133545-16-1 133545-17-2 185913-97-7

185913-98-8 398127-98-5, (R)-Methyl soniphos

398128-03-5, (R)-Cyclohexyl soniphos 817629-55-3,

(S)-Methyl soniphos 817629-56-4, (S)-Cyclohexyll soniphos

RL: TEM (Technical or engineered material use); USES (Uses)

(novel stable compns, of water and oxygen sensitive compds. and their method of preparation)

RN 133545-16-1 CAPLUS

CN Phosphine, 1,1'-[(1R)-6,6'-dimethoxy[1,1'-biphenyl]-2,2'-diyl]bis[1,1-diphenyl- (CA INDEX NAME)

RN 133545-17-2 CAPLUS

CN Phosphine, 1,1'-[(1S)-6,6'-dimethoxy[1,1'-biphenyl]-2,2'-diyl]bis[1,1-diphenyl- (CA INDEX NAME)

RN 185913-97-7 CAPLUS

CN Phosphine, [(1R)-5,5'-dichloro-6,6'-dimethoxy[1,1'-biphenyl]-2,2'-diyl]bis[diphenyl- (9CI) (CA INDEX NAME)

RN 185913-98-8 CAPLUS

CN Phosphine, [(1S)-5,5'-dichloro-6,6'-dimethoxy[1,1'-biphenyl]-2,2'-diyl]bis[diphenyl- (9CI) (CA INDEX NAME)

RN 398127-98-5 CAPLUS

CN [1,1'-Biphenyl]-2,2'-diol, 6,6'-bis(diphenylphosphino)-, diacetate, (1R)-(9CI) (CA INDEX NAME)

RN 398128-03-5 CAPLUS

CN Cyclohexanecarboxylic acid, (1R)-6,6'-bis(diphenylphosphino)[1,1'-biphenyl]-2,2'-diyl ester (9CI) (CA INDEX NAME)

RN 817629-55-3 CAPLUS

CN [1,1'-Biphenyl]-2,2'-diol, 6,6'-bis(diphenylphosphino)-, diacetate (ester), (1S)- (9CI) (CA INDEX NAME)

RN 817629-56-4 CAPLUS

CN Cyclohexanecarboxylic acid, (1S)-6,6'-bis(diphenylphosphino)[1,1'-

L3 ANSWER 47 OF 212 CAPLUS COPYRIGHT 2007 ACS on STN

ACCESSION NUMBER:

2005:1257723 CAPLUS

DOCUMENT NUMBER:

144:171041

TITLE:

Palladium-Catalyzed Asymmetric Amination and Imidation

of 2,3-Allenyl Phosphates

AUTHOR(S):

Imada, Yasushi; Nishida, Masayuki; Kutsuwa, Koji;

Murahashi, ShunIchi; Naota, Takeshi-

CORPORATE SOURCE:

Department of Chemistry, Graduate School of

Engineering Science, Osaka University, Machikaneyama,

Toyonaka, Osaka, 560-8531, Japan

SOURCE:

Organic Letters (2005), 7(26), 5837-5839

CODEN: ORLEF7; ISSN: 1523-7060

PUBLISHER:

American Chemical Society

DOCUMENT TYPE:

Journal

LANGUAGE:

English

OTHER SOURCE(S):

CASREACT 144:171041

AB Asym. amination of 2,3-allenyl phosphates with nitrogen nucleophiles such as amines, hydroxylamines, and imides can be performed efficiently using a combination of zerovalent palladium complexes and SEGPHOS or MeOBIPHEP ligand, affording the corresponding optically active 1-aminated derivs. with enantiomeric excess of up to 97% ee. Thus, (R)-SEGPHOS/Pd2(dba)3·CHCl3 reaction of t-BuCH:C:CHCH2OP(O)(OEt)2 with MeNHCH2Ph in THF gave 90% t-BuCH:C:CHCH2NMeCH2Ph.

IT 133545-16-1

RL: CAT (Catalyst use); USES (Uses)

(preparation and palladium-catalyzed asym. amination and imidation of allenyl phosphates with amines, hydroxylamines, and imides)

RN 133545-16-1 CAPLUS

CN Phosphine, 1,1'-[(1R)-6,6'-dimethoxy[1,1'-biphenyl]-2,2'-diyl]bis[1,1-diphenyl- (CA INDEX NAME)

REFERENCE COUNT:

THERE ARE 24 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L3 ANSWER 48 OF 212 CAPLUS COPYRIGHT 2007 ACS on STN

ACCESSION NUMBER:

2005:1206561 CAPLUS

DOCUMENT NUMBER:

144:88359

TITLE:

Thermally accelerated asymmetric hydrosilylations

using ligated copper hydride

AUTHOR(S):

Lipshutz, Bruce H.; Frieman, Bryan A.; Unger, John B.;

Nihan, Danielle M.

CORPORATE SOURCE:

Department of Chemistry and Biochemistry, University

of California, Santa Barbara, CA, 93106, USA

SOURCE:

Canadian Journal of Chemistry (2005), 83(6-7), 606-614

CODEN: CJCHAG; ISSN: 0008-4042

PUBLISHER:

National Research Council of Canada

DOCUMENT TYPE: LANGUAGE:

Journal English

OTHER SOURCE(S):

CASREACT 144:88359

AB Exposure of a variety of prochiral substrates to [(R)-(-)-DTBM-SEGPHOS]CuH + PMHS under microwave or conventionally heated conditions reduces reaction times for these hydrosilylations from hours to minutes without significant erosion in ee in most cases. Thus, microwave assisted hydrosilylation of isophorone with poly(methylhydrosiloxane) at 60° for 60 min gave 100% (R)-3,3,5-trimethylcyclohexanone.

IT 394248-45-4

RL: CAT (Catalyst use); RCT (Reactant); RACT (Reactant or reagent); USES (Uses)

(thermally or microwave accelerated asym. hydrosilylations of prochiral substrates using ligated copper hydride)

RN 394248-45-4 CAPLUS

CN Phosphine, [(1R)-6,6'-dimethoxy[1,1'-biphenyl]-2,2'-diyl]bis[bis(3,5-dimethylphenyl)- (9CI) (CA INDEX NAME)

REFERENCE COUNT:

33 THERE ARE 33 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

CAPLUS COPYRIGHT 2007 ACS on STN ANSWER 49 OF 212

ACCESSION NUMBER:

2005:1111288 CAPLUS

DOCUMENT NUMBER:

144:36213

TITLE:

Dynamic kinetic resolution of α,β -

unsaturated lactones through asymmetric

copper-catalyzed conjugate reduction: Application to

the total synthesis of eupomatilone-3

AUTHOR(S):

Rainka, Matthew P.; Milne, Jacqueline E.; Buchwald,

Stephen L.

CORPORATE SOURCE:

Department of Chemistry, Massachusetts Institute of

SOURCE:

Technology, Cambridge, MA, 02139, USA Angewandte Chemie, International Edition (2005),

44(38), 6177-6180

CODEN: ACIEF5; ISSN: 1433-7851 Wiley-VCH Verlag GmbH & Co. KGaA

PUBLISHER: DOCUMENT TYPE:

Journal

LANGUAGE:

English

OTHER SOURCE(S):

CASREACT 144:36213

GI

AB Only six steps were needed for the total synthesis of eupomatilone-3 in 48% overall yield thanks to the development of a dynamic kinetic resolution that allowed the reductive conversion of a racemic α, β -unsatd. butenolide I in high yield and high enantiomeric and diastereomeric excess. This copper-catalyzed dynamic kinetic resolution was then applied to several γ -aryl-containing α, β -unsatd. butenolides. IT 133545-16-1

RL: CAT (Catalyst use); USES (Uses)

(kinetic resolution of α, β -unsatd. lactones via asym.

copper-catalyzed conjugate reduction and application to total synthesis of eupomatilone-3)

RN 133545-16-1 CAPLUS

CN Phosphine, 1,1'-[(1R)-6,6'-dimethoxy[1,1'-biphenyl]-2,2'-diyl]bis[1,1-diphenyl- (CA INDEX NAME)

REFERENCE COUNT:

THERE ARE 44 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L3 ANSWER 50 OF 212 CAPLUS COPYRIGHT 2007 ACS on STN

ACCESSION NUMBER:

2005:1078324 CAPLUS

DOCUMENT NUMBER:

143:367208

TITLE:

Asymmetric hydrogenation process for preparation of chiral cycloalkanoindoleacetates using ruthenium or

rhodium complexes with chiral phosphines.

INVENTOR(S):

Tellers, David M.; Humphrey, Guy R.

PATENT ASSIGNEE(S):

USA

SOURCE:

U.S. Pat. Appl. Publ., 11 pp.

CODEN: USXXCO

DOCUMENT TYPE:

Patent English

LANGUAGE:

NT: 1

FAMILY ACC. NUM. COUNT:

PATENT INFORMATION:

PAT	TENT	NO.			KIN	D	DATE			APPL	ICAT	ION I	.00		D	ATE		
	-					-								- -				
US	2005	22242	28		A 1		2005	1006		US 2	005-	9756	5		2	0050	401	
AU	2005	2308	97		A 1		2005	1020		AU 2	005-	2308	97		21	0050	329	
CA	2561	632			A 1		2005	1020		CA 2	005-	2561	632		2	0050	329	
WO	2005	0977	45		A1		2005	1020	1	WO 2	005-1	US10	501		2	0050	329	
	W:	ΑE,	AG,	AL,	AM,	ΑT,	AU,	ΑZ,	BA,	BB,	BG,	BR,	BW,	BY,	ΒZ,	CA,	CH,	
		CN,	CO,	CR,	CU,	CZ,	DE,	DK,	DM,	DZ,	EC,	EE,	EG,	ES,	FI,	GB,	GD,	
		GE,	GH,	GM,	HR,	HU,	ID,	IL,	IN,	IS,	JP,	KE,	KG,	KP,	KR,	KZ,	LC,	
		LK,	LR,	LS,	LT,	LU,	LV,	MA,	MD,	MG,	MK,	MN,	MW,	MX,	MZ,	NA,	NI,	
		NO,	NZ,	OM,	PG,	PH,	PL,	PT,	RO,	RU,	SC,	SD,	SE,	SG,	SK,	SL,	SM,	
		SY.	т.т.	TM.	TN.	TR.	TT.	TZ.	UA.	UG.	US.	UZ.	VC.	VN.	YU.	ZA.	ZM.	zw

RW: BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IS, IT, LT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG 20050329 20070103 EP 2005-732832 EP 1737820 A1 AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IS, IT, LI, LT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR, HR, LV 20040402 US 2004-558972P P PRIORITY APPLN. INFO.: WO 2005-US10501 W 20050329 CASREACT 143:367208; MARPAT 143:367208 OTHER SOURCE(S): GI

F CO₂H N CO₂H II

Title compds. (I; n = 1, 2; R1 = Br, SO2Me; R2 = H, PhCH2, 4-nitrobenzyl, 4-aminobenzyl, 4-trifluoromethylbenzyl, 4-chlorobenzyl), were prepared via hydrogenation of α,β -unsatd. acids (II; variables as above) at 0-500 psig H2 in the presence of a Ru-axially chiral phosphine ligand complex, or a Rh ferrocenylphosphine ligand complex, or a Rh TMBTP complex. Preparation of I (n = 1; R1 = SO2Me; R2 = 4-chlorobenzyl) was claimed.

Ι

133577-92-1, (±)-MeO-BIPHEP 133577-92-1D, ruthenium complexes 270253-34-4D, cyclic diethers, ruthenium complexes RL: CAT (Catalyst use); USES (Uses) (asym. hydrogenation process for preparation of chiral cycloalkanoindoleacetates using ruthenium or rhodium complexes with chiral phosphines)

RN 133577-92-1 CAPLUS

CN Phosphine, (6,6'-dimethoxy[1,1'-biphenyl]-2,2'-diyl)bis[diphenyl- (9CI) (CA INDEX NAME)

RN 133577-92-1 CAPLUS

CN Phosphine, (6,6'-dimethoxy[1,1'-biphenyl]-2,2'-diyl)bis[diphenyl- (9CI) (CA INDEX NAME)

RN 270253-34-4 CAPLUS

CN [1,1'-Biphenyl]-2,2'-diol, 6,6'-bis(diphenylphosphino)- (9CI) (CA INDEX NAME)

R PPh2

R PPh2

L3 ANSWER 51 OF 212 CAPLUS COPYRIGHT 2007 ACS on STN

ACCESSION NUMBER: 2005:1059027 CAPLUS

DOCUMENT NUMBER: 143:477615

TITLE: Silver-Catalyzed Asymmetric Sakurai-Hosomi Allylation

of Ketones

AUTHOR(S): Wadamoto, Manabu; Yamamoto, Hisashi

CORPORATE SOURCE: Department of Chemistry, University of Chicago,

Chicago, IL, 60637, USA

SOURCE: Journal of the American Chemical Society (2005),

127(42), 14556-14557

CODEN: JACSAT; ISSN: 0002-7863

PUBLISHER: American Chemical Society

DOCUMENT TYPE: Journal LANGUAGE: English

OTHER SOURCE(S): CASREACT 143:477615

The complex of AgF and (R)-DIFLUORPHOS has been shown to be an effective catalyst for the asym. Sakurai-Hosomi allylation of simple ketones. A significant improvement of the reactivity was observed by using THF as the solvent. The catalyst turnover was increased by addition of 1 equiv of MeOH. AgF and (R)-DIFLUORPHOS predominantly formed a 1:1 complex that provided high enantioselectivity. This catalyst system can be applied to various simple ketones, and corresponding tertiary homoallylic alcs. were obtained with excellent enantioselectivities. Only 1,2-adducts were obtained from both acyclic and cyclic conjugate ketones. The regio-, diastereo-, and enantioselective crotylation has also been achieved. E- or Z-crotyltrimethoxysilane gave a similar diastereomer ratio with high enantioselectivities. This finding introduces the utility of racemic allylsilanes for the enantioselective Sakurai-Hosomi allylation reaction.

IT 133545-16-1
RL: CAT (Catalyst use); USES (Uses)

(stereoselective preparation of homoallylic alcs. via silver-catalyzed asym. Sakurai-Hosomi allylation of ketones with allylic silanes in the presence of chiral diphosphine ligands)

RN 133545-16-1 CAPLUS

CN Phosphine, 1;1'-[(1R)-6,6'-dimethoxy[1,1'-biphenyl]-2,2'-diyl]bis[1,1-diphenyl- (CA INDEX NAME)

REFERENCE COUNT:

38 THERE ARE 38 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L3 ANSWER 52 OF 212 CAPLUS COPYRIGHT 2007 ACS on STN

ACCESSION NUMBER:

2005:962239 CAPLUS

DOCUMENT NUMBER:

143:266590

TITLE:

Process for the preparation of enantiomerically pure

1-substituted-3-aminoalcohols

INVENTOR(S):

Michel, Dominique; Mettler, Hanspeter; McGarrity, John

PATENT ASSIGNEE(S):

Lonza A.-G., Switz. PCT Int. Appl., 20 pp.

SOURCE:

CODEN: PIXXD2

DOCUMENT TYPE:

Patent

LANGUAGE:

English

FAMILY ACC. NUM. COUNT:

PATENT INFORMATION:

PA'	rent	NO.			KIND DATE				APPLICATION NO.						DATE			
WO	2005	0803	70		A1 20050901			WO 2005-EP1781						20050221				
	W:	ΑE,	AG,	AL,	AM,	ΑT,	AU,	ΑZ,	BA,	BB,	BG,	BR,	BW,	BY,	BZ,	CA,	CH,	
		CN,	co,	CR,	CU,	CZ,	DE,	DK,	DM,	DZ,	EC,	EE,	EG,	ES,	FI,	GB,	GD,	
		GE,	GH,	GM,	HR,	HU,	ID,	IL,	IN,	IS,	JP,	KE,	KG,	KP,	KR,	ΚZ,	LC,	
		LK,	LR,	LS,	LT,	LU,	LV,	MA,	MD,	MG,	MK,	MN,	MW,	MX,	MZ,	NA,	NI,	
		NO,	NZ,	OM,	PG,	PH,	PL,	PT,	RO,	RU,	SC,	SD,	SE,	SG,	SK,	SL,	SY,	
		ТJ,	TM,	TN,	TR,	TT,	TZ,	UA,	ŪĠ,	US,	UZ,	VC,	VN,	YU,	ZA,	ZM,	ZW	
	RW:	BW,	GH,	GM,	KE,	LS,	MW,	MZ,	NA,	SD,	SL,	SZ,	TZ,	UG,	ZM,	ZW,	AM,	
		AZ,	BY,	KG,	KZ,	MD,	RU,	ТJ,	TM,	AT,	BE,	BG,	CH,	CY,	CZ,	DE,	DK,	
		EE,	ES,	FI,	FR,	GB,	GR,	HU,	ΙE,	IS,	IT,	LT,	LU,	MC,	NL,	PL,	PT,	
•		RO,	SE,	SI,	SK,	TR,	BF,	ВJ,	CF,	CG,	CI,	CM,	GA,	GN,	GQ,	GW,	ML,	
		MR,	NE,	SN,	TD,	TG		-	•		-		·			-		
ΕP	1566	383	•	•	A1		2005	0824]	EP 2	004-	3809			2	0040	219	
	R:						ES,									MC,	PT,	
		IE,	SI,	LT,	LV,	FI,	RO,	MK,	CY,	AL,	TR,	BG,	CZ,	EE,	·HU,	SK		
ΑU	2005	2159	06	•	A1	·	2005	0901		AU 2	005-	2159	06		2	0050	221	
CA	2556	891			A 1		2005	0901	(CA 2	005-	2556	891		2	0050	221	
EΡ	1720	852			A1		2006	1115	EP 2005-715425				20050221					
	R:	AT,	BE,	BG,	CH,	CY,	CZ,	DE,	DK,	EE,	ES,	FI,	FR,	GB,	GR,	HU,	IE,	

IS, IT, LI, LT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR 20050221 20070228 CN 2005-80005452 CN 1922168 Α 20060915 NO 2006-4017 20060906 NO 2006004017 Α EP 2004-3809 20040219 PRIORITY APPLN. INFO .: Α EP 2004-10043 20040428 Α WO 2005-EP1781 20050221

OTHER SOURCE(S): MARPAT 143:266590

GI

$$R^1$$
 R^2
 R^2

A process for the preparation of enantiomerically pure 1-substituted-3-ΑB aminoalcs. of formula I [wherein Rl = (un)substituted 2-thienyl, (un) substituted 2-furanyl, or (un) substituted phenyl; R2 = (un) substituted C1-4 alkyl or (un)substituted phenyl] and formula II [wherein R1 = (un) substituted 2-thienyl, (un) substituted 2-furanyl, or (un) substituted phenyl; R2 = (un)substituted C1-4 alkyl or (un)substituted phenyl], by asym. hydrogenating an aminoketone or salts of a carboxylic acid and an aminoketone of formula III [wherein R1 = (un)substituted 2-thienyl, (un) substituted 2-furanyl, or (un) substituted phenyl; R2 = (un) substituted C1-4 alkyl or (un)substituted phenyl], and wherein the corresponding aminoalcs. are obtained by subsequent hydrolysis of their salts. Thus, a mixture of 2-acetylthiophene, methylamine hydrochloride, and paraformaldehyde were heated to 120-130 °C for nine hours in ethanol and precipitated to provide 3-N-methylamino-1-(2-thienyl)-1 propanone hydrochloride (PRON-HCl, IV·HCl) which was subsequently stereoselectively reduced in the presence of a transition metal complex of a diphosphine liquid to provide (S)-(-)-3-N-methylamino-1-(2-thienyl)-1propanol ((S)-PROL-HCl, V). Furthermore provided are salts of carboxylic acids with said aminoketones and the aminoalcs. obtained by asym. hydrogenating said aminoketones, resp.

IT · 133545-16-1 133545-17-2

RL: CAT (Catalyst use); USES (Uses)

(process for the preparation of enantiomerically pure 1-substituted-3-aminoalcs.)

RN 133545-16-1 CAPLUS

CN Phosphine, 1,1'-[(1R)-6,6'-dimethoxy[1,1'-biphenyl]-2,2'-diyl]bis[1,1-diphenyl- (CA INDEX NAME)

RN 133545-17-2 CAPLUS

CN Phosphine, 1,1'-[(1S)-6,6'-dimethoxy[1,1'-biphenyl]-2,2'-diyl]bis[1,1-diphenyl- (CA INDEX NAME)

REFERENCE COUNT:

THERE ARE 7 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L3 ANSWER 53 OF 212 CAPLUS COPYRIGHT 2007 ACS on STN

ACCESSION NUMBER:

2005:901934 CAPLUS

DOCUMENT NUMBER:

143:248273

TITLE:

Preparation of enantiomerically pure

1-substituted-3-amino alcohols

INVENTOR(S):

Michel, Dominique Lonza A.-G., Switz.

PATENT ASSIGNEE(S): SOURCE:

Eur. Pat. Appl., 14 pp.

CODEN: EPXXDW

DOCUMENT TYPE:

Patent

LANGUAGE:

English

FAMILY ACC. NUM. COUNT:

PATENT INFORMATION:

PATENT NO.	KIND DATE	APPLICATION NO.	DATE		
EP 1566383	A1 20050824	EP 2004-3809	20040219		
R: AT, BE, CH,	DE, DK, ES, FR,	GB, GR, IT, LI, LU, NL,	SE, MC, PT,		
IE, SI, LT,	LV, FI, RO, MK,	CY, AL, TR, BG, CZ, EE,	HU, SK		
AU 2005215906	A1 20050901	AU 2005-215906	20050221		
CA 2556891	A1 20050901	CA 2005-2556891	20050221		

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20050901
                                                   WO 2005-EP1781
                                                                              20050221
     WO 2005080370
                              A1
               AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH,
               CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD,
               GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC,
               LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI,
               NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY,
          NO, NZ, OM, PG, PH, PL, PI, RO, RO, SC, SD, SE, SG, SR, SL, SI, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW RW: BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IS, IT, LT, LU, MC, NL, PL, PT,
               RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML,
               MR, NE, SN, TD, TG
                                     20061115
                                                   EP 2005-715425
                                                                              20050221
     EP 1720852
                              A1 ·
              AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE,
               IS, IT, LI, LT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR
     CN 1922168
                              Α
                                     20070228
                                                   CN 2005-80005452
                                                                              20050221
     NO 2006004017
                              Α
                                     20060915
                                                   NO 2006-4017
                                                                              20060906
                                                   EP 2004-3809
                                                                           A 20040219
PRIORITY APPLN. INFO.:
                                                   EP 2004-10043
                                                                             20040428
                                                   WO 2005-EP1781
                                                                              20050221
                             CASREACT 143:248273; MARPAT 143:248273
OTHER SOURCE(S):
     Provided is a process for the preparation of enantiomerically pure
     1-substituted-3-amino alcs. (R)- or (S)-HOCH(R1)CH2CH2NHR2 (R1 =
     2-thienyl, 2-furanyl, Ph, substituted 2-thienyl, substituted 2-furanyl,
     substituted Ph; R2 = C1-C4-alkyl, Ph, substituted C1-C4-alkyl, substituted
     Ph), particularly (S)-(-)- and (R)-(+)-3-N-methylamino-1-(2-thienyl)-1-
     propanol, by asym. hydrogenating salts of R1COCH2CH2NHR2 using Rh and an
     asym. ligand.
     133545-16-1 133545-17-2
IT
     RL: RGT (Reagent); RACT (Reactant or reagent)
         (asym. synthesis of 1-substituted -3-amino alcs. via hydrogenation of
         amino ketones)
RN
     133545-16-1 CAPLUS
     Phosphine, 1,1'-[(1R)-6,6'-dimethoxy[1,1'-biphenyl]-2,2'-diyl]bis[1,1-
CN
     diphenyl- (CA INDEX NAME)
```

RN 133545-17-2 CAPLUS
CN Phosphine, 1,1'-[(1S)-6,6'-dimethoxy[1,1'-biphenyl]-2,2'-diyl]bis[1,1-diphenyl- (CA INDEX NAME)

,

REFERENCE COUNT:

10 THERE ARE 10 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L3 ANSWER 54 OF 212 CAPLUS COPYRIGHT 2007 ACS on STN

ACCESSION NUMBER:

2005:782283 CAPLUS

DOCUMENT NUMBER:

143:367178

TITLE:

Cu(I)-Catalyzed reductive aldol cyclizations: Diastereo- and enantioselective synthesis of

β-hydroxy lactones

AUTHOR(S):

Lam, Hon Wai; Joensuu, Pekka M.

CORPORATE SOURCE:

School of Chemistry, University of Edinburgh,

Edinburgh, EH9 3JJ, UK

SOURCE:

Organic Letters (2005), 7(19), 4225-4228

CODEN: ORLEF7; ISSN: 1523-7060

PUBLISHER:

American Chemical Society

DOCUMENT TYPE:

Journal

LANGUAGE:

English

OTHER SOURCE(S):

CASREACT 143:367178

GI

Copper bisphosphine complexes catalyze the intramol. reductive aldol reaction of α,β -unsatd. esters with ketones, affording fiveand six-membered β -hydroxy lactones in high stereoselectivities. Thus, reaction of trans-MeCOCH2CH2O2CCH:CHPh in THF containing Cu(OAc)2, 1,1'-bis(diphenylphosphino)ferrocene, and tetramethyldisilazane gave the hydroxypyranone I in 72% yield. Utilization of chiral nonracemic bisphosphines rendered the cyclizations enantioselective.

IT 133577-92-1 256390-45-1 394248-45-4

RL: CAT (Catalyst use); USES (Uses)

(diastereo and enantioselective preparation of hydroxy lactones via copper/phosphine ligand-catalyzed cyclization of unsatd. carboxylic acid esters with hydroxy ketones)

RN 133577-92-1 CAPLUS

CN Phosphine, (6,6'-dimethoxy[1,1'-biphenyl]-2,2'-diyl)bis[diphenyl- (9CI) (CA INDEX NAME)

RN 256390-45-1 CAPLUS

CN Phosphine, [(1R)-6,6'-dimethoxy[1,1'-biphenyl]-2,2'-diyl]bis[bis[3,5-bis(1-methylethyl)phenyl]- (9CI) (CA INDEX NAME)

RN 394248-45-4 CAPLUS

CN Phosphine, [(1R)-6,6'-dimethoxy[1,1'-biphenyl]-2,2'-diyl]bis[bis(3,5-dimethylphenyl)- (9CI) (CA INDEX NAME)

REFERENCE COUNT: 37 THERE ARE 37 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L3 ANSWER 55 OF 212 CAPLUS COPYRIGHT 2007 ACS on STN

ACCESSION NUMBER:

2005:702939 CAPLUS

DOCUMENT NUMBER:

144:488785

TITLE:

Cationic cobalt(I) catalysts for the asymmetric

cyclocarbonylation of 1,6-enynes

AUTHOR(S):

Schmid, Thomas M.; Gischig, Sebastian; Consiglio,

Giambattista

CORPORATE SOURCE:

Institut fuer Cheie und Bioingenieurwissenschaften,

Eidgenoessische Technische Hochschule, Zurich,

CH-8093, Switz.

SOURCE:

Chirality (2005), 17(7), 353-356 CODEN: CHRLEP; ISSN: 0899-0042

PUBLISHER: Wiley-Liss, Inc.

DOCUMENT TYPE:

Journal English

LANGUAGE:
OTHER SOURCE(S):

CASREACT 144:488785

AB Co(I) complexes, modified with (R)-(6,6'-dimethoxybiphenyl-2,2'-diyl)bis(diphenylphosphine) [Co((R)-MeO-Biphep)(CO)3]X (X = BF4 (1) or OTf (2)), were synthesized and characterized. The compds. have a trigonal bipyramidal structure and are fluxional. They were tested as catalyst precursors for the enantioselective cyclocarbonylation of 4,4-bis(carboethoxy)hept-6-en-1-yne. Enantioselectivities up to 78.5% were attained. However, activity and stereoselectivity are lower compared to catalytic systems based on Co2(CO)8 modified with the same atropisomeric ligand.

IT 133545-16-1

RI: RCT (Reactant); RACT (Reactant or reagent) (cationic cobalt(I) carbonyl diphosphinobiphenyl complexes as catalysts for asym. cyclocarbonylation of 1,6-enyne)

RN 133545-16-1 CAPLUS

CN Phosphine, 1,1'-[(1R)-6,6'-dimethoxy[1,1'-biphenyl]-2,2'-diyl]bis[1,1-diphenyl- (CA INDEX NAME)

REFERENCE COUNT:

THERE ARE 15 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L3 ANSWER 56 OF 212 CAPLUS COPYRIGHT 2007 ACS on STN

ACCESSION NUMBER:

2005:673290 CAPLUS

DOCUMENT NUMBER:

143:172883

TITLE:

Catalytic asymmetric hetero Diels-Alder reaction of a heteroaromatic C-nitroso dienophile: a novel method for synthesis of chiral non-racemic amino alcohols

Yamamoto, Yuhei; Yamamoto, Hisashi

INVENTOR(S):
PATENT ASSIGNEE(S):

University of Chicago, USA

FAIENT ASSIGNED(S)

PCT Int. Appl., 74 pp.

SOURCE:

CODEN: PIXXD2

DOCUMENT TYPE:

Patent

LANGUAGE:

English

FAMILY ACC. NUM. COUNT:

1

PATENT INFORMATION:

	PATENT NO.					KIND DATE				APPL:	ICAT:		DATE				
	WO 2005068457				A1 20050728			1	WO 2	004-1	US43	20041230					
	W:	ΑE,	AG,	AL,	AM,	AT,	AU,	AZ,	BA,	BB,	BG,	BR,	BW,	BY,	BZ,	CA,	CH,
		CN,	co,	CR,	CU,	CZ,	DE,	DK,	DM,	DZ,	EC,	EE,	EG,	ES,	FI,	GB,	GD,
		GE,	GH,	GM,	HR,	HU,	ID,	IL,	IN,	IS,	JP,	ΚE,	KG,	KP,	KR,	ΚZ,	LC,
		LK,	LR,	LS,	LT,	LU,	LV,	MA,	MD,	MG,	MK,	MN,	MW,	MX,	ΜZ,	NA,	NI,
		NO,	NZ,	OM,	PG,	PH,	PL,	PT,	RO,	RU,	SC,	SD,	SE,	SG,	SK,	SL,	SY,
		TJ,	TM,	TN,	TR,	TT,	TZ,	UA,	UG,	US,	UZ,	VC,	VN,	YU,	ZA,	ZM,	ZW
	RW:	BW,	GH,	GM,	KE,	LS,	MW,	MZ,	NA,	SD,	SL,	SZ,	TZ,	UG,	ZM,	ZW,	AM,
		ΑZ,	BY,	KG,	ΚZ,	MD,	RU,	ТJ,	TM,	ΑT,	BE,	BG,	CH,	CY,	CZ,	DE,	DK,
		EE,	ES,	FI,	FR,	GB,	GR,	HU,	ΙE,	IS,	IT,	LT,	LU,	MC,	NL,	PL,	PT,
		RO,	SE,	SI,	SK,	TR,	BF,	ВJ,	CF,	CG,	CI,	CM,	GA,	GN,	GQ,	GW,	ML,
		MR,	NE,	SN,	TD,	ΤG											
	US 2005	2614	97		A1		2005	1124	1	US 2	004-	2755	1		2	0041	230
PRIO	PRIORITY APPLN. INFO.:					US 2004-534025P						P 20040102					
отне	OTHER SOURCE(S):					PAT	143:	1728	83								

OTHER SOURCE(S): MARPAT 143:1

GΙ

$$X = X$$
 $X = X$
 $X =$

The present invention is directed to catalytic asym. Diels-Alder reaction AΒ of a C-nitroso dienophile, e.g. (I) (X = independently CR1 or N; R1 = independently H, alkyl, cycloalkyl, alkoxy, alkylamino, alkylthio, halogen, heterocyclyl, aryl, heteroaryl, arylalkyl, and O-silyl), and 1,3-diene, e.g. (II) (X6 = independently CR9R10, NR11, O, or S; R9-R11 = independently H, alkyl, cycloalkyl, alkoxy, alkylamino, alkylthio, halogen, heterocyclyl, aryl, heteroaryl, arylalkyl, or O-silyl; n = 1-4;R12 = 0 to 4 substituents, each of which is independently selected from the group consisting of alkyl, cycloalkyl, alkoxy, alkylamino, alkylthio, halogen, heterocyclyl, aryl, heteroaryl, arylalkyl, and O-silyl) in the presence of a catalytic amount of an asym. bidentate ligand and a metal to give an enantiomerically enriched dihydro-1,2-oxazine cycloadduct which is converted into a chiral amino alc. Thus, 18.6 mg CuPF6 (MeCN) 4 and 32.1 mg (S)-(-)-SEGPHOS were dried under vacuum for 10 min and 4 mL anhydrous CH2Cl2 was added. The mixture was stirred for 1 h and the clear solution was cooled to -85°, treated dropwise with a solution of 1.0 equiv 6-methyl-2-nitrosopyridine in CH2Cl2, stirred for 10 min, and then treated with 1.5 equiv cyclohexadiene. The reaction mixture was gradually warmed to -20° over a period of 5 h, and then stirred at -20° for an addnl. 1 h to give >95% cycloadduct (III) which was converted into chiral cis-4-amino-2-cyclohexenol derivative (IV).

IT 133545-16-1, (R)-MeO-BIPHEP

RL: CAT (Catalyst use); USES (Uses)

(catalytic asym. hetero Diels-Alder reaction of heteroarom. C-nitroso dienophile in synthesis of chiral dihydro-1,2-oxazine cycloadduct and amino alcs.)

RN 133545-16-1 CAPLUS

CN Phosphine, 1,1'-[(1R)-6,6'-dimethoxy[1,1'-biphenyl]-2,2'-diyl]bis[1,1-diphenyl- (CA INDEX NAME)

L3 ANSWER 57 OF 212 CAPLUS COPYRIGHT 2007 ACS on STN .

ACCESSION NUMBER: 2005:621820 CAPLUS

DOCUMENT NUMBER: 143:286065

TITLE: Cu(I)-Catalyzed Direct Enantioselective Cross

Aldol-Type Reaction of Acetonitrile

AUTHOR(S): Suto, Yutaka; Tsuji, Riichiro; Kanai, Motomu;

Shibasaki, Masakatsu

CORPORATE SOURCE: Graduate School of Pharmaceutical Sciences, The

University of Tokyo, Tokyo, 113-0033, Japan

SOURCE: Organic Letters (2005), 7(17), 3757-3760

CODEN: ORLEF7; ISSN: 1523-7060

PUBLISHER: American Chemical Society

DOCUMENT TYPE: Journal LANGUAGE: English

OTHER SOURCE(S): CASREACT 143:286065

Direct catalytic enantioselective cross aldol-type reaction of aldehydes RCHO (R = Me2CHCH2, cyclohexyl, Ph, PhCH2, n-hexyl, etc.) with acetonitrile to give β -hydroxynitriles RCHOHCH2CN was developed using Cu alkoxide-chiral phosphine complexes as catalysts. Chemoselective activation and deprotonation of the donor substrate (acetonitrile) by the soft metal alkoxide in a strongly donating solvent (HMPA) are key to success in this reaction. Useful chemical yields and promising enantioselectivities are produced using either DTBM-SEGPHOS or a tuned BIPHEP as a chiral ligand.

IT 864365-88-8P

RL: CAT (Catalyst use); SPN (Synthetic preparation); PREP (Preparation); USES (Uses)

(preparation of biphenyl diphosphine as chiral ligand for Cu(I)-catalyzed direct cross aldol-type reaction of aldehydes with acetonitrile)

RN 864365-88-8 CAPLUS

CN Phosphine, [(1R)-6,6'-dimethoxy[1,1'-biphenyl]-2,2'-diyl]bis[bis[4-(1-methylethoxy)-3,5-bis(1-methylethyl)phenyl]- (9CI) (CA INDEX NAME)

IT 864365-86-6P

RL: PUR (Purification or recovery); RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)

(preparation of biphenyl diphosphine as chiral ligand for Cu(I)-catalyzed direct cross aldol-type reaction of aldehydes with acetonitrile)

RN 864365-86-6 CAPLUS

Butanedioic acid, 2,3-bis(benzoyloxy)-, (2S,3S)-, compd. with tetraethyl [(1R)-6,6'-dimethoxy[1,1'-biphenyl]-2,2'-diyl]bis[phosphonate] (1:1) (9CI) (CA INDEX NAME)

CM 1

CN

CRN 145264-54-6 CMF C22 H32 O8 P2

CM 2

CRN 17026-42-5 CMF C18 H14 O8

Absolute stereochemistry. Rotation (+).

IT 145264-54-6P 145265-39-0P 864365-87-7P

RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)

(preparation of biphenyl diphosphine as chiral ligand for Cu(I)-catalyzed direct cross aldol-type reaction of aldehydes with acetonitrile)

RN 145264-54-6 CAPLUS

CN Phosphonic acid, [(1R)-6,6'-dimethoxy[1,1'-biphenyl]-2,2'-diyl]bis-, tetraethyl ester (9CI) (CA INDEX NAME)

RN 145265-39-0 CAPLUS

CN Phosphonic dichloride, [(1R)-6,6'-dimethoxy[1,1'-biphenyl]-2,2'-diyl]bis-(9CI) (CA INDEX NAME)

RN 864365-87-7 CAPLUS

CN Phosphine oxide, [(1R)-6,6'-dimethoxy[1,1'-biphenyl]-2,2'-diyl]bis[bis[4-(1-methylethoxy)-3,5-bis(1-methylethyl)phenyl]- (9CI) (CA INDEX NAME)

PAGE 1-A

REFERENCE COUNT:

32 THERE ARE 32 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L3 ANSWER 58 OF 212 CAPLUS COPYRIGHT 2007 ACS on STN

ACCESSION NUMBER:

2005:547374 CAPLUS

DOCUMENT NUMBER:

143:60250

TITLE:

Method for making fluorine-labeled L-dopa

INVENTOR(S):

Walsh, Joseph C.; Padgett, Henry C.

PATENT ASSIGNEE(S):

CTI Pet Systems, Inc., USA; Molecular Technologies,

Inc

SOURCE:

U.S. Pat. Appl. Publ., 12 pp.

CODEN: USXXCO

DOCUMENT TYPE:

Patent

LANGUAGE:

English

FAMILY ACC. NUM. COUNT:

PATENT INFORMATION:

PATENT NO.	KIND	DATE	AP	PLICATION NO.	DATE
				-	
US 2005137421	A1	20050623	US	2003-742023	20031219
US 7022872	B2	20060404			
PRIORITY APPLN. INFO.:			US	2003-742023	20031219
OTHER SOURCE(S):	CASREA	CT 143:60250			

AB The invention relates to a method for preparing F-dopa and 18F-dopa in good yield with high enantiopurity without the need for further transformations and comprises reacting a benzaldehyde derivative with a phosphonic acid derivative

to produces an olefin intermediate that can be asym. hydrogenated to produce the desired enantiomer. Thus, F-dopa was prepared by reaction of 2-fluoro-4,5-dimethoxybenzaldehyde with (tert-

butoxycarbonylamino) (dimethoxyphosphoryl) acetic acid Me ester, followed by hydrogenation over (S,S)-Et-DUPHOS-Rh and treatment with 48% HBr.

IT 133577-92-1, (±)-MeOBIPHEP

RL: CAT (Catalyst use); USES (Uses)

(asym. synthesis of fluorine-labeled L-dopa)

RN 133577-92-1 CAPLUS

CN Phosphine, (6,6'-dimethoxy[1,1'-biphenyl]-2,2'-diyl)bis[diphenyl- (9CI) (CA INDEX NAME)

L3 ANSWER 59 OF 212 CAPLUS COPYRIGHT 2007 ACS on STN

ACCESSION NUMBER:

2005:494871 CAPLUS

DOCUMENT NUMBER:

144:292547

TITLE:

Homogeneous iridium-catalyzed dehydroaromatization of

2-substituted-1,2-dihydroguinolines

Lu, Shengmei; Wang, Youging; Han, Xiuwen; Zhou,

Yonggui

Dalian Institute of Chemical Physics, The Chinese CORPORATE SOURCE:

Academy of Sciences, Dalian, 116023, Peop. Rep. China

Cuihua Xuebao (2005), 26(4), 287-290 SOURCE:

CODEN: THHPD3; ISSN: 0253-9837

PUBLISHER: Kexue Chubanshe

Journal DOCUMENT TYPE: LANGUAGE: Chinese

CASREACT 144:292547 OTHER SOURCE(S):

The dehydroaromatization reactions of 2-substituted-1,2-dihydroquinolines, 2-methyl-2,3-dihydroindole, 1,4-dihydropyridines and 3,4dihydroisoquinoline were investigated using iridium complexes with P-P or N-P ligands prepared in situ. The effect of different metal precursors, ligands, catalyst loading, solvents and iodine on the rate and selectivity for the dehydroaromatization was investigated using 2-methyl-1,2dihydroquinoline as model substrate. The best result was achieved by using the complex $[Ir(COD)Cl]2/(\pm)-MeO-Biphep$ in the presence of iodine at room temperature The aromatization of 2,3-dihydroindole and 1.4-dihydropyridine could proceed only at high temperature in the same catalyst

system, and 3,4-dihydroisoquinoline could not be aromatized even at 120 °C for 36 h. The presence of iodine could accelerate the reaction

rate.

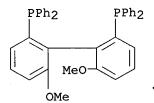
AUTHOR(S):

133577-92-1 IT

RL: CAT (Catalyst use); USES (Uses) (homogeneous iridium-catalyzed dehydroaromatization of 2-substituted-1,2-dihydroquinolines)

133577-92-1 CAPLUS RN

Phosphine, (6,6'-dimethoxy[1,1'-biphenyl]-2,2'-diyl)bis[diphenyl- (9CI) CN (CA INDEX NAME)



ANSWER 60 OF 212 CAPLUS COPYRIGHT 2007 ACS on STN 1.3

2005:378835 CAPLUS ACCESSION NUMBER:

143:78246 DOCUMENT NUMBER:

Avoiding the classical resolution during the synthesis TITLE:

of MeO-BIPHEP and 3,3'-disubstituted derivatives

Gorobets, Evgueni; Wheatley, Bronwen M. M.; Hopkins, AUTHOR(S):

J. Matthew; McDonald, Robert; Keay, Brian A.

CORPORATE SOURCE: Department of Chemistry, University of Calgary,

Calgary, AB, T2N 1N4, Can.

Tetrahedron Letters (2005), 46(22), 3843-3846 SOURCE:

CODEN: TELEAY; ISSN: 0040-4039

Elsevier B.V. PUBLISHER:

Journal DOCUMENT TYPE: English LANGUAGE:

CASREACT 143:78246 OTHER SOURCE(S):

The Ullmann coupling of a (S)-2-acetoxy propionyl chloride-derived iododiphenylphosphinyl benzene derivative gave a a 2:1 mixture of diastereomers in 81% yield that are easily separated by silica gel chromatog. This procedure avoids the generally cumbersome and sometimes difficult resolution

step with DBTA. Similar Ullmann couplings and separation of the corresponding diastereomers are employed with other (S)-2-acetoxy propionyl chloride-derived iodo diphenylphosphinyl benzene derivs. or (R)-2-acetoxy propionyl chloride-derived iodo diphenylphosphinyl benzene derivs. ultimately affording a new series of 3,3'-disubstituted-MeO-BIPHEP derivs. The use of these new derivs. in a palladium-catalyzed asym. Heck reaction, a Pd-catalyzed asym. polyene cyclization reaction, and a rhodium-catalyzed enantioselective hydrogenation is also reported.

IT 855300-66-2P

CN

RL: SPN (Synthetic preparation); PREP (Preparation)
(minor diastereomer formed in the preparation of a nonracemic biphenyldiphosphine using the stereoselective Ullmann coupling of a (diphenylphosphinyl)iodophenyl ester of (S)-acetyllactic acid as the key step)

RN 855300-66-2 CAPLUS

Propanoic acid, 2-(acetyloxy)-, (1S)-6,6'-bis(diphenylphosphinyl)[1,1'-biphenyl]-2,2'-diyl ester, (2S,2'S)- (9CI) (CA INDEX NAME)

IT 133545-16-1P, (R)-MeO-BIPHEP

RL: CAT (Catalyst use); SPN (Synthetic preparation); PREP (Preparation); USES (Uses)

(preparation of nonracemic biphenyldiphosphines using the stereoselective Ullmann coupling of (diphenylphosphinyl)iodophenyl esters of acetyllactic acids as the key step)

RN 133545-16-1 CAPLUS

CN Phosphine, 1,1'-[(1R)-6,6'-dimethoxy[1,1'-biphenyl]-2,2'-diyl]bis[1,1-diphenyl- (CA INDEX NAME)

IT 133577-82-9P 855300-65-1P

> RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)

(preparation of nonracemic biphenyldiphosphines using the stereoselective Ullmann coupling of (diphenylphosphinyl)iodophenyl esters of acetyllactic acids as the key step)

RN133577-82-9 CAPLUS

Phosphine oxide, (6,6'-dimethoxy[1,1'-biphenyl]-2,2'-diyl)bis[diphenyl-, CN (1R) - (9CI)(CA INDEX NAME)

855300-65-1 CAPLUS RN

Propanoic acid, 2-(acetyloxy)-, (1R)-6,6'-bis(diphenylphosphinyl)[1,1'-CN biphenyl]-2,2'-diyl ester, (2S,2'S)- (9CI) (CA INDEX NAME)

REFERENCE COUNT:

21 THERE ARE 21 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

CAPLUS COPYRIGHT 2007 ACS on STN ANSWER 61 OF 212

ACCESSION NUMBER:

2005:291815 CAPLUS

DOCUMENT NUMBER:

143:7548

TITLE:

AUTHOR(S):

Enantioselective reductive cyclization of 1,6-enynes via rhodium-catalyzed asymmetric hydrogenation: C-C

bond formation precedes hydrogen activation

Jang, Hye-Young; Hughes, Freddie W.; Gong, Hegui;

Zhang, Junmei; Brodbelt, Jennifer S.; Krische, Michael

CORPORATE SOURCE:

Department of Chemistry and Biochemistry, University

of Texas at Austin, Austin, TX, 78712, USA

SOURCE:

Journal of the American Chemical Society (2005),

127(17), 6174-6175

CODEN: JACSAT; ISSN: 0002-7863

American Chemical Society

PUBLISHER: DOCUMENT TYPE:

Journal English

LANGUAGE: OTHER SOURCE(S):

CASREACT 143:7548

GI

Asym. hydrogenation of 1,6-enynes using chirally modified cationic rhodium precatalysts enabled enantioselective reductive cyclization to afford alkylidene-substituted carbocycles and heterocycles, e.g., I, in a completely atom economical fashion. Good to excellent yields and exceptional levels of asym. induction were observed across a structurally diverse set of substrates. Mechanistic studies involving hydrogen-deuterium crossover expts., along with the observance of nonconjugated cycloisomerization products, suggested that rhodium(III) metallocyclopentene formation occurred in advance of hydrogen activation. This oxidative coupling-hydrogenolytic cleavage motif should play a key role in the design of related hydrogen-mediated couplings.

IT 185913-97-7

RL: CAT (Catalyst use); USES (Uses)

(stereoselective preparation of pyrrolidines, tetrahydrofurans, and cyclopentanes via rhodium-catalyzed asym. hydrogenation/reductive cyclization of enymes in the presence of chiral phosphine ligands)

RN 185913-97-7 CAPLUS

CN Phosphine, [(1R)-5,5'-dichloro-6,6'-dimethoxy[1,1'-biphenyl]-2,2'-diyl]bis[diphenyl- (9CI) (CA INDEX NAME)

REFERENCE COUNT:

THERE ARE 44 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L3 ANSWER 62 OF 212 CAPLUS COPYRIGHT 2007 ACS on STN

ACCESSION NUMBER:

2005:284199 CAPLUS

DOCUMENT NUMBER:

142:355259

TITLE:

Process for the production of chiral propionic acid

derivatives

INVENTOR(S):

Puentener, Kurt; Scalone, Michelangelo

PATENT ASSIGNEE(S):

Switz.

SOURCE:

U.S. Pat. Appl. Publ., 17 pp.

CODEN: USXXCO

DOCUMENT TYPE:

LANGUAGE:

Patent English

FAMILY ACC. NUM. COUNT:

PATENT INFORMATION:

PA	PATENT NO.			KIND DATE					ICAT:		DATE						
	2005 2539									US 2	004-:	9331	76				
	2005																
"10											BG,						
	W .										EC,						
				•	•		•				JP,		•				
											MK,						
											SC,						
											UZ,						
	RW:										SL,						
											BE,						
											LU,						
		SI,	SK,	TR,	BF,	ВJ,	CF,	CG,	CI,	CM,	GΑ,	GN,	GQ,	GW,	ML,	MR,	ΝĒ,
			TD,														
EP	1670	792			A1		2006	0621		EP 2	004-	7654	44		2	0040	921
	R:	ΑT,	BE,	CH,	DE,	DK,	ES,	FR,	GB,	GR,	ΙΤ,	LI,	LU,	NL,	SE,	MC,	PT,
		IE,	SI,	FI,	RO,	CY,	TR,	BG,	CZ,	EE,	HU,	PL,	SK				
CN	1860														2	0040	921
JP	2007	5068	00		т	*	2007	0322		JP 2	006-	5300	00		2	0040	
PRIORIT											003-					0030	929
				-							004-					0040	
OTHER SO	OURCE	(S):			CAS	REAC	Т 14	2:35									

$$R^{1}$$
 R^{2}
 R^{3}
 R^{3}
 R^{3}
 R^{3}
 R^{3}

$$R^{1}$$
 R^{2}
 R^{3}
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 R^{3}
 R^{3}
 R^{3}
 R^{3}
 R^{3}
 R^{3}

The present invention is concerned with a novel process for the preparation of compds. of formula (I) (wherein Rl = aryl or heteroaryl; R2, R3 = lower alkyl) or salts thereof comprising catalytic asym. hydrogenation of a compound of formula (II) in the presence of a catalyst comprising ruthenium or rhodium and a chiral diphosphine ligand or comprising rhodium and a chiral diphosphine ligand. The compds. of formula I and the corresponding salts and/or esters are pharmaceutically active substances. Thus,

(2)-2-methoxy-3-[4-[2-(5-methyl-2-phenyloxazol-4yl)ethoxy]benzo[b]thiophen-7-yl]-2-propenoic acid Me ester. Thus, a suspension of 6.39 g Me 2-methoxy-2-(triphenylphosphonium)acetate chloride (prepared from Me 2-chloro-2-methoxyacetate and triphenylphosphine), 0.68 g lithium methylate, and 3.89 g 4-[2-(5-methyl-2-phenyloxazol-4yl)ethoxy]benzo[b]thiophene-7-carboxaldehyde in 40 mL DMF was heated for $\overline{23}$ h at $\overline{75}^{\circ}$, and cooled to 0° to give, after filtering the formed white crystals, washing with 40 mL methanol, drying at 20° and 1 mbar for 16 h, 3.54 g (73 %) (Z)-2-methoxy-3-[4-[2-(5-methyl-2- $^{\circ}$ phenyloxazol-4-yl)ethoxy]benzo[b]thiophen-7-yl]-2-propenoic acid Me ester (III) (97.5% purity). III (45.81 g) in 920 mL methanol was treated with a solution of 40.15 g KOH in 92 mL H2O and stirred for 90 min at 100° to give the yellowish reaction solution which was cooled to 60°, treated dropwise with 54 mL concentrate HCl within 5 min (pH 3-4), cooled to 0° , and filtered to give 41.66 g (95%) (Z)-2-methoxy-3-[4-[2-(5-methyl-2- $^{\circ}$] phenyloxazol-4-yl)ethoxy]benzo[b]thiophen-7-yl]-2-propenoic acid (IV) (purity >99.9 %). IV (7.0 g), 20 mL CH2Cl2, 10 mL MeOH, 3.21 mL 1 M aqueous NaOH solution, and a solution of 6.51 mg (0.00804 mmol) of Ru(OAc)2((S)-TMBTP) [TMBTP = 4,4'-bis(diphenylphosphino)-2,2',5,5'-tetramethyl-3,3'dithiophene] in 2 mL MeOH were mixed, rendered homogeneous, and treated with 18 mL MeOH to give a suspension which was autoclaved at 40° and 30 bar H for 6 h to give 7.27 g (S)-2-methoxy-3-[4-[2-(5-methyl-2phenyloxazol-4-yl)ethoxy]benzo[b]thiophen-7-yl]propionic acid (97.1% purity, 93% enantiomeric purity). 133577-94-3 145209-26-3, (S)-Pphenyl-MeOBIPHEP 145214-57-9 145214-59-1, (S)-2-Furyl-MeOBIPHEP 145265-42-5, (S)-PAn-MeOBIPHEP 352655-61-9 849238-77-3, (S)-BnOBIPHEP 849238-79-5, (S)-BenzoylBIPHEP 849238-80-8, (S)-tert-ButylCOOBIPHEP 849238-83-1, (S)-IPrOBIPHEP RL: CAT (Catalyst use); USES (Uses) (asym. hydrogenation catalyst; preparation of chiral (benzothiophenyl) propionic acid derivative by asym. hydrogenation of (benzothiophenyl)propenoic acid derivative in presence of chiral ruthenium or rhodium phosphine complex) 133577-94-3 CAPLUS

PAGE 1-A

Phosphine, (6,6'-dimethoxy[1,1'-biphenyl]-2,2'-diyl)bis[bis(4-

methylphenyl) - (9CI) (CA INDEX NAME)

IT

RN

CN

145209-26-3 CAPLUS RN

Phosphine, [(1S)-6,6'-dimethoxy[1,1'-biphenyl]-2,2'-diyl] bis [bis([1,1'-biphenyl]-4-yl)-(9CI) (CA INDEX NAME) CN

PAGE 1-A

PAGE 2-A

Ph

RN 145214-57-9 CAPLUS

Phosphine, [(1R)-6,6'-dimethoxy[1,1'-biphenyl]-2,2'-diyl]bis[di-2-furanyl-CN (9CI) (CA INDEX NAME)

145214-59-1 CAPLUS RN

Phosphine, [(1S)-6,6'-dimethoxy[1,1'-biphenyl]-2,2'-diyl]bis[di-2-furanyl-(9CI) (CA INDEX NAME) CN

145265-42-5 CAPLUS RN

Phosphine, [(1S)-6,6'-dimethoxy[1,1'-biphenyl]-2,2'-diyl]bis[bis(4-methoxyphenyl)- (9CI) (CA INDEX NAME) CN

PAGE 2-A

| OMe

RN 352655-61-9 CAPLUS

CN Phosphine, [(1R)-6,6'-dimethoxy[1,1'-biphenyl]-2,2'-diyl]bis[bis[3,5-bis(1,1-dimethylethyl)-4-methoxyphenyl]- (9CI) (CA INDEX NAME)

RN

RN 849238-79-5 CAPLUS CN [1,1'-Biphenyl]-2,2'-diol, 6,6'-bis(diphenylphosphino)-, dibenzoate, (1S)-(9CI) (CA INDEX NAME)

RN 849238-80-8 CAPLUS
CN Propanoic acid, 2,2-dimethyl-, (1S)-6,6'-bis(diphenylphosphino)[1,1'-biphenyl]-2,2'-diyl ester (9CI) (CA INDEX NAME)

RN 849238-83-1 CAPLUS
CN Phosphine, [(1S)-6,6'-bis(1-methylethoxy)[1,1'-biphenyl]-2,2'-diyl]bis[diphenyl- (9CI) (CA INDEX NAME)

IT 133545-17-2, (S)-MeOBIPHEP 362634-22-8,
 (S)-3,5-Xyl-MeOBIPHEP 849239-14-1, (S)-(2-Naphthyl)MeOBIPHEP
849239-15-2, (S)-(6-MeO-2-Naphthyl)MeOBIPHEP
RL: CAT (Catalyst use); USES (Uses)
 (preparation of chiral (benzothiophenyl)propionic acid derivative by asym.
 hydrogenation of (benzothiophenyl)propenoic acid derivative in presence of
 chiral ruthenium or rhodium phosphine complex)
RN 133545-17-2 CAPLUS
CN Phosphine, 1,1'-[(1S)-6,6'-dimethoxy[1,1'-biphenyl]-2,2'-diyl]bis[1,1 diphenyl- (CA INDEX NAME)

RN 362634-22-8 CAPLUS
CN Phosphine, 1,1'-[(1S)-6,6'-dimethoxy[1,1'-biphenyl]-2,2'-diyl]bis[1,1-bis(3,5-dimethylphenyl)- (CA INDEX NAME)

RN 849239-14-1 CAPLUS

CN Phosphine, [(1S)-6,6'-dimethoxy[1,1'-biphenyl]-2,2'-diyl]bis[di-2-naphthalenyl- (9CI) (CA INDEX NAME)

RN 849239-15-2 CAPLUS

CN Phosphine, [(1S)-6,6'-dimethoxy[1,1'-biphenyl]-2,2'-diyl]bis[bis(6-methoxy-2-naphthalenyl)- (9CI) (CA INDEX NAME)

L3 ANSWER 63 OF 212 CAPLUS COPYRIGHT 2007 ACS on STN

ACCESSION NUMBER:

CORPORATE SOURCE:

2005:274256 CAPLUS

DOCUMENT NUMBER:

142:481803

TITLE:

Dynamic Kinetic Resolution Catalyzed by Ir Axially Chiral Phosphine Catalyst: Asymmetric Synthesis of

anti Aromatic β -Hydroxy- α -amino Acid Esters

AUTHOR(S):

Makino, Kazuishi; Hiroki, Yasuhiro; Hamada, Yasumasa Graduate School of Pharmaceutical Sciences, Chiba

University, Inage-ku, Yayoi-cho, Chiba, 263-8522,

Japan

SOURCE:

Journal of the American Chemical Society (2005),

127(16), 5784-5785

CODEN: JACSAT; ISSN: 0002-7863

PUBLISHER:

American Chemical Society

DOCUMENT TYPE:

Journal

LANGUAGE:

English

OTHER SOURCE(S):

CASREACT 142:481803

AB The anti selective hydrogenation of α -amino- β -keto esters was achieved by using the iridium-MeOBIPHEP catalyst yielding aromatic anti- β -hydroxy- α -amino acid esters with excellent diastereo- and enantioselectivities. Acetic acid as a solvent and sodium acetate as an additive dramatically affected the yield and the enantioselectivity. The products are useful for synthesis of pharmaceuticals and natural products.

IT 133545-16-1 133545-17-2, (S)-MeOBIPHEP

RL: CAT (Catalyst use); USES (Uses) (asym. synthesis of anti aromatic β -hydroxy- α -amino acid esters via dynamic kinetic resolution catalyzed by Ir axially chiral phosphine catalyst)

RN 133545-16-1 CAPLUS

CN Phosphine, 1,1'-[(1R)-6,6'-dimethoxy[1,1'-biphenyl]-2,2'-diyl]bis[1,1-diphenyl- (CA INDEX NAME)

RN 133545-17-2 CAPLUS

Phosphine, 1,1'-[(1S)-6,6'-dimethoxy[1,1'-biphenyl]-2,2'-diyl]bis[1,1-CN diphenyl- (CA INDEX NAME)

27 THERE ARE 27 CITED REFERENCES AVAILABLE FOR THIS REFERENCE COUNT:

RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

CAPLUS COPYRIGHT 2007 ACS on STN ANSWER 64 OF 212

ACCESSION NUMBER:

2005:253273 CAPLUS

DOCUMENT NUMBER:

142:316957

TITLE:

Preparation of chiral biphenyl-2,2'-diyl diphosphines

substituted by alkoxycarbonyl groups for use in asymmetric hydrogenation of ketones and imines

INVENTOR(S):

Artl, Dieter; Meseguer, Benjamin Bayer Chemicals A.-G., Germany

PATENT ASSIGNEE(S): SOURCE:

Eur. Pat. Appl., 20 pp.

CODEN: EPXXDW

DOCUMENT TYPE:

Patent

LANGUAGE:

German

FAMILY ACC. NUM. COUNT:

PATENT INFORMATION:

PATENT NO.	KIND DATE	APPLICATION NO.	DATE
EP 1516880	A1 20050323	EP 2004-21174	20040907
R: AT, BE, CH,	DE, DK, ES, FR,	GB, GR, IT, LI, LU, NL,	SE, MC, PT,
IE, SI, LT,	LV, FI, RO, MK,	CY, AL, TR, BG, CZ, EE,	HU, PL, SK, HR
DE 10342672	A1 20050421	DE 2003-10342672	20030916
JP 2005089462	A 20050407	JP 2004-267421	20040914

US 2005085377
PRIORITY APPLN. INFO.:
OTHER SOURCE(S):

A1 20050421

US 2004-940785 DE 2003-10342672 20040914 A 20030916

MARPAT 142:316957

GI

Chiral (1R) - and (1S) -1,1'-biphenyl-2,2'-bis(phosphines) (I, Z = none, X = AB H, Cl, Br; R1 = R2 = Ph, cyclohexyl, 3.5-tBu-4-MeOC6H2, 3.5-Me2-4-MeOC6H2, 3.5-tBu2C6H3, 4-FC6H4; R3 = R4 = RO2CCH2, RO2CCHMe, where R = Me, Et; or R3 = cyclohexyl, R4 = RO2CCH2, RO2CCHMe, same R), useful as ligands for asym. hydrogenation of prochiral ketones and imines (no data) and acetoacetate, were prepared by demethylation of corresponding phosphine oxides I (Z = 0; R3 = R4 = Me, same X, R1, R2), followed by etherification of 6,6'-diols with R3Y, preferably cyclohexyl bromide, and RO2CCH2Br or RO2CCHMeBr and reduction by HSiCl3 and used as ligands for asym. hydrogenation of Et acetoacetate and Et chloroacetate. In an example, compound (S)-I (Z =O, X = Cl, R3 = R4 = H, R1 = R2 = Ph) was prepared by reaction of the corresponding dimethoxy-derivative with BBr3, followed by water hydrolysis; the diol was reacted with MeO2CH2Br to give I (Z = O, X = Cl, R3 = R4 =MeO2CCH2, R1 = R2 = Ph), which was reduced by HSiCl3 to give the corresponding diphosphine I (5, Z = none, same X, R1-R4). Asym. hydrogenation of Me acetoacetate in the presence of 0.02 mol% of 5 and 0.01 mol% of RuCl3 in ethanol under 90 atm of H2 for 1 h at 80° gave Me 3-hydroxybutyrate with 97.4 % ee.

IT 848078-18-2P 848078-19-3P 848078-20-6P 848078-21-7P

RL: CAT (Catalyst use); SPN (Synthetic preparation); PREP (Preparation); USES (Uses)

(asym. hydrogenation ligand; preparation of axial-chiral biphenyl-2,2'-diphosphines containing alkoxycarbonylalkoxy groups as ligands for asym. hydrogenation of ketones)

RN 848078-18-2 CAPLUS

CN Acetic acid, 2,2'-[[(1S)-3,3'-dichloro-6,6'-bis(diphenylphosphino)[1,1'-biphenyl]-2,2'-diyl]bis(oxy)]bis-, dimethyl ester (9CI) (CA INDEX NAME)

RN 848078-20-6 CAPLUS

CN Acetic acid, [[(1S)-2'-(cyclohexyloxy)-6,6'-bis(diphenylphosphino)[1,1'-biphenyl]-2-yl]oxy]-, methyl ester (9CI) (CA INDEX NAME)

RN 848078-21-7 CAPLUS

CN Propanoic acid, 2,2'-[[(1S)-3,3'-dichloro-6,6'-bis(diphenylphosphino)[1,1'-biphenyl]-2,2'-diyl]bis(oxy)]bis-, dimethyl ester (9CI) (CA INDEX NAME)

IT 185913-95-5

RL: RCT (Reactant); RACT (Reactant or reagent)

(demethylation; preparation of axial-chiral biphenyl-2,2'-diphosphines containing alkoxycarbonylalkoxy groups as ligands for asym. hydrogenation of ketones)

RN 185913-95-5 CAPLUS

CN Phosphine oxide, [(1S)-5,5'-dichloro-6,6'-dimethoxy[1,1'-biphenyl]-2,2'-diyl]bis[diphenyl- (9CI) (CA INDEX NAME)

IT 679422-50-5P 691363-03-8P 848078-14-8P

RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)

(etherification; preparation of axial-chiral biphenyl-2,2'-diphosphines containing alkoxycarbonylalkoxy groups as ligands for asym. hydrogenation of ketones)

RN 679422-50-5 CAPLUS

CN [1,1'-Biphenyl]-2,2'-diol, 6,6'-bis(diphenylphosphinyl)-, (1S)- (9CI) (CA INDEX NAME)

RN 691363-03-8 CAPLUS

CN [1,1'-Biphenyl]-2,2'-diol, 3,3'-dichloro-6,6'-bis(diphenylphosphinyl)-, (1S)- (9CI) (CA INDEX NAME)

RN 848078-14-8 CAPLUS CN [1,1'-Biphenyl]-2-ol, 2'-(cyclohexyloxy)-6,6'-bis(diphenylphosphinyl)-, (1S)- (9CI) (CA INDEX NAME)

ΙT 848078-22-8 848078-23-9 848078-24-0 848078-25-1 848078-26-2 848078-27-3 848078-28-4 848078-29-5 848078-30-8 848078-31-9 848078-32-0 848078-33-1 848078-34-2 848078-35-3 848078-36-4 848078-37-5 848078-38-6 848078-39-7 848078-40-0 848078-41-1 848078-42-2 848078-43-3 848078-44-4 848078-45-5 848078-46-6 848078-47-7 848078-48-8 848078-49-9 848078-50-2 848078-51-3 848078-52-4 848078-53-5 848078-54-6 848078-55-7 848078-56-8 848078-57-9 848078-58-0 848078-59-1 848078-60-4 848078-61-5 848078-62-6 848078-63-7 848078-64-8 848078-65-9 848078-66-0 848078-67-1 848078-68-2 848078-69-3 848078-70-6 848078-71-7 848078-72-8 848078-73-9 848078-74-0 848078-75-1 848078-76-2 848078-77-3 848078-78-4 848078-79-5 848078-80-8 848078-81-9 848078-82-0 848078-83-1 848078-84-2 848078-85-3 848078-86-4 848078-87-5 848078-88-6 848078-89-7 848078-90-0 848078-91-1 848078-92-2 848078-93-3 848078-94-4 848078-95-5 848078-96-6 848078-97-7 848078-98-8 848078-99-9 848079-00-5 848079-01-6 848079-02-7

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848079-03-8 848079-04-9 848079-05-0
848079-06-1 848079-07-2 848079-08-3
848079-09-4 848079-10-7 848079-11-8
848079-12-9 848079-13-0 848079-14-1
848079-15-2 848079-16-3 848079-17-4
848079-18-5 848079-19-6 848079-20-9
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848079-24-3 848079-25-4 848079-26-5
848079-27-6 848079-28-7 848079-29-8
848079-30-1 848079-31-2 848079-32-3
848079-33-4 848079-34-5 848079-35-6
848079-36-7 848079-37-8 848079-38-9
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848079-42-5 848079-43-6 848079-44-7
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848079-48-1 848079-49-2 848079-50-5
848079-51-6 848079-52-7 848079-53-8
848079-54-9 848079-55-0 848079-56-1
848079-57-2 848079-58-3 848079-59-4
848079-60-7 848079-61-8
RL: CAT (Catalyst use); FMU (Formation, unclassified); FORM (Formation,
nonpreparative); USES (Uses)
   (preparation of axial-chiral biphenyl-2,2'-diphosphines containing
   alkoxycarbonylalkoxy groups as ligands for asym. hydrogenation of
   ketones)
848078-22-8 CAPLUS
Propanoic acid, 2,2'-[[(1R)-3,3'-dichloro-6,6'-bis(diphenylphosphino)[1,1'-
biphenyl]-2,2'-diyl]bis(oxy)]bis-, dimethyl ester (9CI) (CA INDEX NAME)
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CN

RN 848078-23-9 CAPLUS
CN Propanoic acid, 2,2'-[[(1R)-3,3'-dichloro-6,6'-bis(diphenylphosphino)[1,1'-biphenyl]-2,2'-diyl]bis(oxy)]bis-, diethyl ester (9CI) (CA INDEX NAME)

848078-24-0 CAPLUS RN

Propanoic acid, 2,2'-[[(1S)-3,3'-dichloro-6,6'-bis(diphenylphosphino)[1,1'-CN biphenyl]-2,2'-diyl]bis(oxy)]bis-, diethyl ester (9CI) (CA INDEX NAME)

RN

848078-25-1 CAPLUS
Acetic acid, 2,2'-[[(1R)-3,3'-dichloro-6,6'-bis(diphenylphosphino)[1,1'-CN biphenyl]-2,2'-diyl]bis(oxy)]bis-, dimethyl ester (9CI) (CA INDEX NAME)

RN

848078-26-2 CAPLUS Acetic acid, 2,2'-[[(1R)-3,3'-dichloro-6,6'-bis(diphenylphosphino)[1,1'-CN biphenyl]-2,2'-diyl]bis(oxy)]bis-, diethyl ester (9CI) (CA INDEX NAME)

848078-27-3 CAPLUS RN

Acetic acid, [[(1R)-3,3'-dichloro-2'-(cyclohexyloxy)-6,6'-CN bis(diphenylphosphino)[1,1'-biphenyl]-2-yl]oxy]-, methyl ester (9CI) (CA INDEX NAME)

RN

848078-28-4 CAPLUS Acetic acid, [[(1S)-3,3'-dichloro-2'-(cyclohexyloxy)-6,6'-CNbis(diphenylphosphino)[1,1'-biphenyl]-2-yl]oxy]-, methyl ester (9CI) INDEX NAME)

RN

848078-29-5 CAPLUS Acetic acid, [[(1R)-3,3'-dichloro-2'-(cyclohexyloxy)-6,6'-CN bis(diphenylphosphino)[1,1'-biphenyl]-2-yl]oxy]-, ethyl ester (9CI)

RN 848078-30-8 CAPLUS

CN Acetic acid, [[(1S)-3,3'-dichloro-2'-(cyclohexyloxy)-6,6'-bis(diphenylphosphino)[1,1'-biphenyl]-2-yl]oxy]-, ethyl ester (9CI) (CA INDEX NAME)

RN 848078-31-9 CAPLUS

CN Propanoic acid, 2,2'-[[(1R)-3,3'-dichloro-6,6'-bis(dicyclohexylphosphino)[1,1'-biphenyl]-2,2'-diyl]bis(oxy)]bis-, dimethyl ester (9CI) (CA INDEX NAME)

PAGE 1-A

RN 848078-32-0 CAPLUS
CN Propanoic acid, 2,2'-[[(1S)-3,3'-dichloro-6,6'-bis(dicyclohexylphosphino)[1,1'-biphenyl]-2,2'-diyl]bis(oxy)]bis-, dimethyl ester (9CI) (CA INDEX NAME)

PAGE 1-A

RN 848078-33-1 CAPLUS

Propanoic acid, 2,2'-[[(1R)-3,3'-dichloro-6,6'-bis(dicyclohexylphosphino)[1,1'-biphenyl]-2,2'-diyl]bis(oxy)]bis-, diethyl ester (9CI) (CA INDEX NAME)

PAGE 1-A

PAGE 2-A

848078-34-2 CAPLUS RN

Propanoic acid, 2,2'-[[(1S)-3,3'-dichloro-6,6'-CN bis(dicyclohexylphosphino)[1,1'-biphenyl]-2,2'-diyl]bis(oxy)]bis-, diethyl ester (9CI) (CA INDEX NAME)

PAGE 1-A

PAGE 2-A

RN

848078-35-3 CAPLUS
Acetic acid, 2,2'-[[(1R)-3,3'-dichloro-6,6'-bis(dicyclohexylphosphino)[1,1 CN'-biphenyl]-2,2'-diyl]bis(oxy)]bis-, dimethyl ester (9CI) (CA INDEX NAME)

848078-36-4 CAPLUS
Acetic acid, 2,2'-[[(1S)-3,3'-dichloro-6,6'-bis(dicyclohexylphosphino)[1,1'-biphenyl]-2,2'-diyl]bis(oxy)]bis-, dimethyl ester (9CI) (CA INDEX NAME) CN

RN

848078-37-5 CAPLUS
Acetic acid, 2,2'-[[(1R)-3,3'-dichloro-6,6'-bis(dicyclohexylphosphino)[1,1'-biphenyl]-2,2'-diyl]bis(oxy)]bis-, diethyl ester (9CI) (CA INDEX NAME) CN

848078-38-6 CAPLUS
Acetic acid, 2,2'-[[(1S)-3,3'-dichloro-6,6'-bis(dicyclohexylphosphino)[1,1'-biphenyl]-2,2'-diyl]bis(oxy)]bis-, diethyl ester (9CI) (CA INDEX NAME) CN

RN

848078-39-7 CAPLUS Acetic acid, [[(1R)-3,3'-dichloro-2'-(cyclohexyloxy)-6,6'-CN bis(dicyclohexylphosphino)[1,1'-biphenyl]-2-yl]oxy]-, methyl ester (9CI) (CA INDEX NAME)

848078-40-0 CAPLUS
Acetic acid, [[(1S)-3,3'-dichloro-2'-(cyclohexyloxy)-6,6'-bis(dicyclohexylphosphino)[1,1'-biphenyl]-2-yl]oxy]-, methyl ester (9CI) CN (CA INDEX NAME)

848078-41-1 CAPLUS RN

Acetic acid, [[(1R)-3,3'-dichloro-2'-(cyclohexyloxy)-6,6'-bis(dicyclohexylphosphino)[1,1'-biphenyl]-2-yl]oxy]-, ethyl ester (9CI) CN(CA INDEX NAME)

RN 848078-42-2 CAPLUS

CN Acetic acid, [[(1S)-3,3'-dichloro-2'-(cyclohexyloxy)-6,6'-bis(dicyclohexylphosphino)[1,1'-biphenyl]-2-yl]oxy]-, ethyl ester (9CI) (CA INDEX NAME)

848078-43-3 CAPLUS

RN

CN Propanoic acid, 2,2'-[[(1R)-6,6'-bis[bis[3,5-bis(1,1-dimethylethyl)-4-methoxyphenyl]phosphino]-3,3'-dichloro[1,1'-biphenyl]-2,2'-diyl]bis(oxy)]bis-, dimethyl ester (9CI) (CA INDEX NAME)

RN 848078-44-4 CAPLUS

CN Propanoic acid, 2,2'-[[(1S)-6,6'-bis[bis[3,5-bis(1,1-dimethylethyl)-4-methoxyphenyl]phosphino]-3,3'-dichloro[1,1'-biphenyl]-2,2'-diyl]bis(oxy)]bis-, dimethyl ester (9CI) (CA INDEX NAME)

848078-45-5 CAPLUS

RN Propanoic acid, 2,2'-[[(1R)-6,6'-bis[bis[3,5-bis(1,1-dimethylethyl)-4-CNmethoxyphenyl]phosphino]-3,3'-dichloro[1,1'-biphenyl]-2,2'-diyl]bis(oxy)]bis-, diethyl ester (9CI) (CA INDEX NAME)

RN 848078-46-6 CAPLUS

CN Propanoic acid, 2,2'-[[(1S)-6,6'-bis[bis[3,5-bis(1,1-dimethylethyl)-4-methoxyphenyl]phosphino]-3,3'-dichloro[1,1'-biphenyl]-2,2'-diyl]bis(oxy)]bis-, diethyl ester (9CI) (CA INDEX NAME)

RN

848078-47-7 CAPLUS
Acetic acid, 2,2'-[[(1R)-6,6'-bis[bis[3,5-bis(1,1-dimethylethyl)-4-methoxyphenyl]phosphino]-3,3'-dichloro[1,1'-biphenyl]-2,2'-diyl]bis(oxy)]bis-, dimethyl ester (9CI) (CA INDEX NAME) CN

RN

848078-48-8 CAPLUS
Acetic acid, 2,2'-[[(1S)-6,6'-bis[bis[3,5-bis(1,1-dimethylethyl)-4-methoxyphenyl]phosphino]-3,3'-dichloro[1,1'-biphenyl]-2,2'-diyl]bis(oxy)]bis-, dimethyl ester (9CI) (CA INDEX NAME) CN

RN

848078-49-9 CAPLUS
Acetic acid, 2,2'-[[(1R)-6,6'-bis[bis[3,5-bis(1,1-dimethylethyl)-4-methoxyphenyl]phosphino]-3,3'-dichloro[1,1'-biphenyl]-2,2'-diyl]bis(oxy)]bis-, diethyl ester (9CI) (CA INDEX NAME) CN

RN

848078-50-2 CAPLUS
Acetic acid, 2,2'-[[(1S)-6,6'-bis[bis[3,5-bis(1,1-dimethylethyl)-4-methoxyphenyl]phosphino]-3,3'-dichloro[1,1'-biphenyl]-2,2'-diyl]bis(oxy)]bis-, diethyl ester (9CI) (CA INDEX NAME) CN

RN

848078-51-3 CAPLUS
Acetic acid, [[(1R)-6,6'-bis[bis[3,5-bis(1,1-dimethylethyl)-4-methoxyphenyl]phosphino]-3,3'-dichloro-2'-(cyclohexyloxy)[1,1'-biphenyl]-2-yl]oxy]-, methyl ester (9CI) (CA INDEX NAME) CN

RN

848078-52-4 CAPLUS
Acetic acid, [[(1S)-6,6'-bis[bis[3,5-bis(1,1-dimethylethyl)-4-methoxyphenyl]phosphino]-3,3'-dichloro-2'-(cyclohexyloxy)[1,1'-biphenyl]-2-yl]oxy]-, methyl ester (9CI) (CA INDEX NAME) CN

RN

848078-53-5 CAPLUS
Acetic acid, [[(1S)-6,6'-bis[bis[3,5-bis(1,1-dimethylethyl)-4-methoxyphenyl]phosphino]-3,3'-dichloro-2'-(cyclohexyloxy)[1,1'-biphenyl]-2-yl]oxy]-, ethyl ester (9CI) (CA INDEX NAME) CN

RN

848078-54-6 CAPLUS
Acetic acid, [[(1R)-6,6'-bis[bis[3,5-bis(1,1-dimethylethyl)-4-methoxyphenyl]phosphino]-3,3'-dichloro-2'-(cyclohexyloxy)[1,1'-biphenyl]-2-yl]oxy]-, ethyl ester (9CI) (CA INDEX NAME) CN

RN 848078-55-7 CAPLUS

CN Propanoic acid, 2,2'-[[(1R)-6,6'-bis[bis(4-methoxy-3,5-dimethylphenyl)phosphino]-3,3'-dichloro[1,1'-biphenyl]-2,2'-diyl]bis(oxy)]bis-, dimethyl ester (9CI) (CA INDEX NAME)

RN 848078-56-8 CAPLUS

CN Propanoic acid, 2,2'-[[(1S)-6,6'-bis[bis(4-methoxy-3,5-dimethylphenyl)phosphino]-3,3'-dichloro[1,1'-biphenyl]-2,2'-diyl]bis(oxy)]bis-, dimethyl ester (9CI) (CA INDEX NAME)

RN 848078-57-9 CAPLUS

CN Propanoic acid, 2,2'-[[(1R)-6,6'-bis[bis(4-methoxy-3,5-dimethylphenyl)phosphino]-3,3'-dichloro[1,1'-biphenyl]-2,2'-diyl]bis(oxy)]bis-, diethyl ester (9CI) (CA INDEX NAME)

RN 848078-58-0 CAPLUS
CN Propanoic acid, 2,2'-[[(1S)-6,6'-bis[bis(4-methoxy-3,5-

dimethylphenyl)phosphino]-3,3'-dichloro[1,1'-biphenyl]-2,2'-diyl]bis(oxy)]bis-, diethyl ester (9CI) (CA INDEX NAME)

RN

848078-59-1 CAPLUS
Acetic acid, 2,2'-[[(1R)-6,6'-bis[bis(4-methoxy-3,5-dimethylphenyl)phosphino]-3,3'-dichloro[1,1'-biphenyl]-2,2'-diyl]bis(oxy)]bis-, dimethyl ester (9CI) (CA INDEX NAME) CN

RN

848078-60-4 CAPLUS
Acetic acid, 2,2'-[[(1S)-6,6'-bis[bis(4-methoxy-3,5-dimethylphenyl)phosphino]-3,3'-dichloro[1,1'-biphenyl]-2,2'-diyl]bis(oxy)]bis-, dimethyl ester (9CI) (CA INDEX NAME) CN

RN

848078-61-5 CAPLUS Acetic acid, 2,2'-[[(1R)-6,6'-bis[bis(4-methoxy-3,5-CN dimethylphenyl)phosphino]-3,3'-dichloro[1,1'-biphenyl]-2,2'-diyl]bis(oxy)]bis-, diethyl ester (9CI) (CA INDEX NAME)

RN

848078-62-6 CAPLUS
Acetic acid, 2,2'-[[(1S)-6,6'-bis[bis(4-methoxy-3,5-dimethylphenyl)phosphino]-3,3'-dichloro[1,1'-biphenyl]-2,2'-diyl]bis(oxy)]bis-, diethyl ester (9CI) (CA INDEX NAME) CN

RN

848078-63-7 CAPLUS
Acetic acid, [[(1R)-6,6'-bis[bis(4-methoxy-3,5-dimethylphenyl)phosphino]-3,3'-dichloro-2'-(cyclohexyloxy)[1,1'-biphenyl]-2-yl]oxy]-, methyl ester CN (9CI) (CA INDEX NAME)

RN

848078-64-8 CAPLUS ·
Acetic acid, [[(1S)-6,6'-bis[bis(4-methoxy-3,5-dimethylphenyl)phosphino]-3,3'-dichloro-2'-(cyclohexyloxy)[1,1'-biphenyl]-2-yl]oxy]-, methyl ester (9CI) (CA INDEX NAME) CN

RN

848078-65-9 CAPLUS
Acetic acid, [[(1R)-6,6'-bis[bis(4-methoxy-3,5-dimethylphenyl)phosphino]3,3'-dichloro-2'-(cyclohexyloxy)[1,1'-biphenyl]-2-yl]oxy]-, ethyl ester CN (9CI) (CA INDEX NAME)

RN

848078-66-0 CAPLUS
Acetic acid, [[(1S)-6,6'-bis[bis(4-methoxy-3,5-dimethylphenyl)phosphino]-3,3'-dichloro-2'-(cyclohexyloxy)[1,1'-biphenyl]-2-yl]oxy]-, ethyl ester (9CI) (CA INDEX NAME) CN

848078-67-1 CAPLUS

RNPropanoic acid, 2,2'-[[(1R)-6,6'-bis[bis[3,5-bis(1,1-dimethylethyl)phenyl]phosphino]-3,3'-dichloro[1,1'-biphenyl]-2,2'-CN diyl]bis(oxy)]bis-, dimethyl ester (9CI) (CA INDEX NAME)

RN 848078-68-2 CAPLUS

CN Propanoic acid, 2,2'-[[(1S)-6,6'-bis[bis[3,5-bis(1,1-dimethylethyl)phenyl]phosphino]-3,3'-dichloro[1,1'-biphenyl]-2,2'-diyl]bis(oxy)]bis-, dimethyl ester (9CI) (CA INDEX NAME)

$$t-Bu$$
 $Bu-t$
 $t-Bu$
 P
 $C1$
 O
 O
 Me

848078-69-3 CAPLUS

RN Propanoic acid, 2,2'-[[(1R)-6,6'-bis[bis[3,5-bis(1,1-dimethylethyl)phenyl]phosphino]-3,3'-dichloro[1,1'-biphenyl]-2,2'-diyl]bis(oxy)]bis-, diethyl ester (9CI) (CA INDEX NAME) CN

RN 848078-70-6 CAPLUS

CN Propanoic acid, 2,2'-[[(1S)-6,6'-bis[bis[3,5-bis(1,1-dimethylethyl)phenyl]phosphino]-3,3'-dichloro[1,1'-biphenyl]-2,2'-diyl]bis(oxy)]bis-, diethyl ester (9CI) (CA INDEX NAME)

$$t-Bu$$
 $Bu-t$
 $t-Bu$
 P
 $C1$
 O
 O
 DEt

RN

848078-71-7 CAPLUS
Acetic acid, 2,2'-[[(1R)-6,6'-bis[bis[3,5-bis(1,1-dimethylethyl)phenyl]phosphino]-3,3'-dichloro[1,1'-biphenyl]-2,2'-diyl]bis(oxy)]bis-, dimethyl ester (9CI) (CA INDEX NAME) CN

RN 848078-72-8 CAPLUS
CN Acetic acid, 2,2'-[[(1S)-6,6'-bis[bis[3,5-bis(1,1-dimethylethyl)phenyl]phosphino]-3,3'-dichloro[1,1'-biphenyl]-2,2'-diyl]bis(oxy)]bis-, dimethyl ester (9CI) (CA INDEX NAME)

RN 848078-73-9 CAPLUS
CN Acetic acid, 2,2'-[[(1R)-6,6'-bis[bis[3,5-bis(1,1-dimethylethyl)phenyl]phosphino]-3,3'-dichloro[1,1'-biphenyl]-2,2'-diyl]bis(oxy)]bis-, diethyl ester (9CI) (CA INDEX NAME)

RN 848078-74-0 CAPLUS

CN Acetic acid, 2,2'-[[(1S)-6,6'-bis[bis[3,5-bis(1,1-dimethylethyl)phenyl]phosphino]-3,3'-dichloro[1,1'-biphenyl]-2,2'-diyl]bis(oxy)]bis-, diethyl ester (9CI) (CA INDEX NAME)

RN 848078-75-1 CAPLUS

CN Acetic acid, [[(1R)-6,6'-bis[bis[3,5-bis(1,1-dimethylethyl)phenyl]phosphin o]-3,3'-dichloro-2'-(cyclohexyloxy)[1,1'-biphenyl]-2-yl]oxy]-, methyl ester (9CI) (CA INDEX NAME)

RN

848078-76-2 CAPLUS
Acetic acid, [[(1S)-6,6'-bis[bis[3,5-bis(1,1-dimethylethyl)phenyl]phosphin
o]-3,3'-dichloro-2'-(cyclohexyloxy)[1,1'-biphenyl]-2-yl]oxy]-, methyl CN ester (9CI) (CA INDEX NAME)

848078-77-3 CAPLUS
Acetic acid, [[(1R)-6,6'-bis[bis[3,5-bis(1,1-dimethylethyl)phenyl]phosphin o]-3,3'-dichloro-2'-(cyclohexyloxy)[1,1'-biphenyl]-2-yl]oxy]-, ethyl ester (9CI) (CA INDEX NAME) CN

848078-78-4 CAPLUS Acetic acid, [[(1S)-6,6'-bis[bis[3,5-bis(1,1-dimethylethyl)phenyl]phosphin CN o]-3,3'-dichloro-2'-(cyclohexyloxy)[1,1'-biphenyl]-2-yl]oxy]-, ethyl ester (9CI) (CA INDEX NAME)

RN 848078-79-5 CAPLUS

CN Propanoic acid, 2,2'-[[(1R)-6,6'-bis[bis(4-fluorophenyl)phosphino]-3,3'-dichloro[1,1'-biphenyl]-2,2'-diyl]bis(oxy)]bis-, dimethyl ester (9CI) (CA INDEX NAME)

848078-80-8 CAPLUS
Propanoic acid, 2,2'-[[(1S)-6,6'-bis[bis(4-fluorophenyl)phosphino]-3,3'-dichloro[1,1'-biphenyl]-2,2'-diyl]bis(oxy)]bis-, dimethyl ester (9CI) (CA INDEX NAME) CN

848078-81-9 CAPLUS
Propanoic acid, 2,2'-[[(1R)-6,6'-bis[bis(4-fluorophenyl)phosphino]-3,3'-dichloro[1,1'-biphenyl]-2,2'-diyl]bis(oxy)]bis-, diethyl ester (9CI) (CA CNINDEX NAME)

RN 848078-82-0 CAPLUS

CN Propanoic acid, 2,2'-[[(1S)-6,6'-bis[bis(4-fluorophenyl)phosphino]-3,3'-dichloro[1,1'-biphenyl]-2,2'-diyl]bis(oxy)]bis-, diethyl ester (9CI) (CA INDEX NAME)

848078-83-1 CAPLUS
Acetic acid, 2,2'-[[(1R)-6,6'-bis[bis(4-fluorophenyl)phosphino]-3,3'-dichloro[1,1'-biphenyl]-2,2'-diyl]bis(oxy)]bis-, dimethyl ester (9CI) (CA CNINDEX NAME)

$$\begin{array}{c|c} F \\ \hline \\ P \\ \hline \\ C1 \\ \end{array} \begin{array}{c} F \\ \hline \\ OMe \\ \end{array}$$

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RN 848078-84-2 CAPLUS
CN Acetic acid, 2,2'-[[(1S)-6,6'-bis[bis(4-fluorophenyl)phosphino]-3,3'dichloro[1,1'-biphenyl]-2,2'-diyl]bis(oxy)]bis-, dimethyl ester (9CI) (CA
INDEX NAME)

$$\begin{array}{c|c} F \\ \hline \\ P \\ \hline \\ C1 \\ \end{array} \begin{array}{c} F \\ \hline \\ O \\ \end{array} \begin{array}{c} OMe \\ \end{array}$$

848078-85-3 CAPLUS
Acetic acid, 2,2'-[[(1R)-6,6'-bis[bis(4-fluorophenyl)phosphino]-3,3'-dichloro[1,1'-biphenyl]-2,2'-diyl]bis(oxy)]bis-, diethyl ester (9CI) (CA INDEX NAME) CN

848078-86-4 CAPLUS
Acetic acid, 2,2'-[[(1S)-6,6'-bis[bis(4-fluorophenyl)phosphino]-3,3'-dichloro[1,1'-biphenyl]-2,2'-diyl]bis(oxy)]bis-, diethyl ester (9CI) (CA CNINDEX NAME)

848078-87-5 CAPLUS

Acetic acid, [[(1R)-6,6'-bis[bis(4-fluorophenyl)phosphino]-3,3'-dichloro-2'-(cyclohexyloxy)[1,1'-biphenyl]-2-yl]oxy]-, methyl ester (9CI) (CA INDEX NAME) CN

848078-88-6 CAPLUS
Acetic acid, [[(1S)-6,6'-bis[bis(4-fluorophenyl)phosphino]-3,3'-dichloro-2'-(cyclohexyloxy)[1,1'-biphenyl]-2-yl]oxy]-, methyl ester (9CI) (CA CNINDEX NAME)

848078-89-7 CAPLUS
Acetic acid, [[(1R)-6,6'-bis[bis(4-fluorophenyl)phosphino]-3,3'-dichloro-2'-(cyclohexyloxy)[1,1'-biphenyl]-2-yl]oxy]-, ethyl ester (9CI) (CA INDEX CNNAME)

848078-90-0 CAPLUS
Acetic acid, [[(1S)-6,6'-bis[bis(4-fluorophenyl)phosphino]-3,3'-dichloro-2'-(cyclohexyloxy)[1,1'-biphenyl]-2-yl]oxy]-, ethyl ester (9CI) (CA INDEX CNNAME)

848078-91-1 CAPLUS
Acetic acid, 2,2'-[[(1S)-6,6'-bis(diphenylphosphino)[1,1'-biphenyl]-2,2'-diyl]bis(oxy)]bis-, dimethyl ester (9CI) (CA INDEX NAME) CN

RN

848078-92-2 CAPLUS
Acetic acid, 2,2'-[[(1S)-6,6'-bis(diphenylphosphino)[1,1'-biphenyl]-2,2'-diyl]bis(oxy)]bis-, diethyl ester (9CI) (CA INDEX NAME) CN

848078-93-3 CAPLUS RN

RN 848078-94-4 CAPLUS

CN Propanoic acid, 2,2'-[[(1R)-6,6'-bis(diphenylphosphino)[1,1'-biphenyl]-2,2'-diyl]bis(oxy)]bis-, dimethyl ester (9CI) (CA INDEX NAME)

RN 848078-95-5 CAPLUS

CN Propanoic acid, 2,2'-[[(1R)-6,6'-bis(diphenylphosphino)[1,1'-biphenyl]-2,2'-diyl]bis(oxy)]bis-, diethyl ester (9CI) (CA INDEX NAME)

RN848078-96-6 CAPLUS

Propanoic acid, 2,2'-[[(1S)-6,6'-bis(diphenylphosphino)[1,1'-biphenyl]-CN 2,2'-diyl]bis(oxy)]bis-, diethyl ester (9CI) (CA INDEX NAME)

848078-97-7 CAPLUS RN

Acetic acid, 2,2'-[[(1R)-6,6'-bis(diphenylphosphino)[1,1'-biphenyl]-2,2'-CN diyl]bis(oxy)]bis-, dimethyl ester (9CI) (CA INDEX NAME)

RN

848078-98-8 CAPLUS Acetic acid, 2,2'-[[(1R)-6,6'-bis(diphenylphosphino)[1,1'-biphenyl]-2,2'-CN diyl]bis(oxy)]bis-, diethyl ester (9CI) (CA INDEX NAME)

RN 848078-99-9 CAPLUS

RN 848079-00-5 CAPLUS

Acetic acid, [[(1R)-2'-(cyclohexyloxy)-6,6'-bis(diphenylphosphino)[1,1'biphenyl]-2-yl]oxy]-, ethyl ester (9CI) (CA INDEX NAME)

RN

848079-01-6 CAPLUS
Acetic acid, [[(1S)-2'-(cyclohexyloxy)-6,6'-bis(diphenylphosphino)[1,1'-CN biphenyl]-2-yl]oxy]-, ethyl ester (9CI) (CA INDEX NAME)

848079-02-7 CAPLUS RN

CN Propanoic acid, 2,2'-[[(1R)-6,6'-bis(dicyclohexylphosphino)[1,1'-biphenyl]-2,2'-diyl]bis(oxy)]bis-, dimethyl ester (9CI) (CA INDEX NAME)

RN 848079-03-8 CAPLUS

CN Propanoic acid, 2,2'-[[(1S)-6,6'-bis(dicyclohexylphosphino)[1,1'-biphenyl]-2,2'-diyl]bis(oxy)]bis-, dimethyl ester (9CI) (CA INDEX NAME)

RN 848079-04-9 CAPLUS

CN Propanoic acid, 2,2'-[[(1R)-6,6'-bis(dicyclohexylphosphino)[1,1'-biphenyl]-2,2'-diyl]bis(oxy)]bis-, diethyl ester (9CI) (CA INDEX NAME)

848079-05-0 CAPLUS RN

Propanoic acid, 2,2'-[[(1S)-6,6'-bis(dicyclohexylphosphino)[1,1'-biphenyl]-2,2'-diyl]bis(oxy)]bis-, diethyl ester (9CI) (CA INDEX NAME) CN

RN

848079-06-1 CAPLUS
Acetic acid, 2,2'-[[(1R)-6,6'-bis(dicyclohexylphosphino)[1,1'-biphenyl]-2,2'-diyl]bis(oxy)]bis-, dimethyl ester (9CI) (CA INDEX NAME) CN

848079-07-2 CAPLUS
Acetic acid, 2,2'-[[(1S)-6,6'-bis(dicyclohexylphosphino)[1,1'-biphenyl]-2,2'-diyl]bis(oxy)]bis-, dimethyl ester (9CI) (CA INDEX NAME) CN

RN

848079-08-3 CAPLUS
Acetic acid, 2,2'-[[(1R)-6,6'-bis(dicyclohexylphosphino)[1,1'-biphenyl]-CN 2,2'-diyl]bis(oxy)]bis-, diethyl ester (9CI) (CA INDEX NAME)

RN 848079-09-4 CAPLUS

CN Acetic acid, 2,2'-[[(1S)-6,6'-bis(dicyclohexylphosphino)[1,1'-biphenyl]-2,2'-diyl]bis(oxy)]bis-, diethyl ester (9CI) (CA INDEX NAME)

RN 848079-10-7 CAPLUS

CN Acetic acid, [[(1R)-2'-(cyclohexyloxy)-6,6'-bis(dicyclohexylphosphino)[1,1 '-biphenyl]-2-yl]oxy]-, methyl ester (9CI) (CA INDEX NAME)

848079-11-8 CAPLUS
Acetic acid, [[(1S)-2'-(cyclohexyloxy)-6,6'-bis(dicyclohexylphosphino)[1,1'-biphenyl]-2-yl]oxy]-, methyl ester (9CI) (CA INDEX NAME) CN

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848079-12-9 CAPLUS
Acetic acid, [[(1R)-2'-(cyclohexyloxy)-6,6'-bis(dicyclohexylphosphino)[1,1'-biphenyl]-2-yl]oxy]-, ethyl ester (9CI) (CA INDEX NAME) CN

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848079-13-0 CAPLUS Acetic acid, [[(1S)-2'-(cyclohexyloxy)-6,6'-bis(dicyclohexylphosphino)[1,1 RNCN '-biphenyl]-2-yl]oxy]-, ethyl ester (9CI) (CA INDEX NAME)

RN 848079-14-1 CAPLUS

CN Propanoic acid, 2,2'-[[(1R)-6,6'-bis[bis[3,5-bis(1,1-dimethylethyl)-4-methoxyphenyl]phosphino][1,1'-biphenyl]-2,2'-diyl]bis(oxy)]bis-, dimethyl ester (9CI) (CA INDEX NAME)

RN 848079-15-2 CAPLUS

CN Propanoic acid, 2,2'-[[(1S)-6,6'-bis[bis[3,5-bis(1,1-dimethylethyl)-4-methoxyphenyl]phosphino][1,1'-biphenyl]-2,2'-diyl]bis(oxy)]bis-, dimethyl ester (9CI) (CA INDEX NAME)

RN 848079-16-3 CAPLUS

CN Propanoic acid, 2,2'-[[(1R)-6,6'-bis[bis[3,5-bis(1,1-dimethylethyl)-4-methoxyphenyl]phosphino][1,1'-biphenyl]-2,2'-diyl]bis(oxy)]bis-, diethyl ester (9CI) (CA INDEX NAME)

RN 848079-17-4 CAPLUS

CN Propanoic acid, 2,2'-[[(1S)-6,6'-bis[bis[3,5-bis(1,1-dimethylethyl)-4-methoxyphenyl]phosphino][1,1'-biphenyl]-2,2'-diyl]bis(oxy)]bis-, diethyl ester (9CI) (CA INDEX NAME)

848079-18-5 CAPLUS
Acetic acid, 2,2'-[[(1R)-6,6'-bis[bis[3,5-bis(1,1-dimethylethyl)-4-methoxyphenyl]phosphino][1,1'-biphenyl]-2,2'-diyl]bis(oxy)]bis-, dimethyl CN ester (9CI) (CA INDEX NAME)

RN 848079-19-6 CAPLUS
CN Acetic acid, 2,2'-[[(1S)-6,6'-bis[bis[3,5-bis(1,1-dimethylethyl)-4-methoxyphenyl]phosphino][1,1'-biphenyl]-2,2'-diyl]bis(oxy)]bis-, dimethyl ester (9CI) (CA INDEX NAME)

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RN 848079-20-9 CAPLUS

CN Acetic acid, 2,2'-[[(1R)-6,6'-bis[bis[3,5-bis(1,1-dimethylethyl)-4-methoxyphenyl]phosphino][1,1'-biphenyl]-2,2'-diyl]bis(oxy)]bis-, diethyl ester (9CI) (CA INDEX NAME)

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RN 848079-21-0 CAPLUS

CN Acetic acid, 2,2'-[[(1S)-6,6'-bis[bis[3,5-bis(1,1-dimethylethyl)-4-methoxyphenyl]phosphino][1,1'-biphenyl]-2,2'-diyl]bis(oxy)]bis-, diethyl ester (9CI) (CA INDEX NAME)

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RN

848079-22-1 CAPLUS
Acetic acid, [[(1R)-2',6-bis[bis[3,5-bis(1,1-dimethylethyl)-4-methoxyphenyl]phosphino]-6'-(cyclohexyloxy)[1,1'-biphenyl]-2-yl]oxy]-, CN methyl ester (9CI) (CA INDEX NAME)

848079-23-2 CAPLUS
Acetic acid, [[(1S)-2',6-bis[bis[3,5-bis(1,1-dimethylethyl)-4-methoxyphenyl]phosphino]-6'-(cyclohexyloxy)[1,1'-biphenyl]-2-yl]oxy]-, CN methyl ester (9CI) (CA INDEX NAME)

RN 848079-24-3 CAPLUS
CN Acetic acid, [[(1R)-2',6-bis[bis[3,5-bis(1,1-dimethylethyl)-4 methoxyphenyl]phosphino]-6'-(cyclohexyloxy)[1,1'-biphenyl]-2-yl]oxy]-,
 ethyl ester (9CI) (CA INDEX NAME)

RN 848079-25-4 CAPLUS
CN Acetic acid, [[(1S)-2',6-bis[bis[3,5-bis(1,1-dimethylethyl)-4-methoxyphenyl]phosphino]-6'-(cyclohexyloxy)[1,1'-biphenyl]-2-yl]oxy]-, ethyl ester (9CI) (CA INDEX NAME)

RN 848079-26-5 CAPLUS

CN Propanoic acid, 2,2'-[[(1R)-6,6'-bis[bis(4-methoxy-3,5-dimethylphenyl)phosphino][1,1'-biphenyl]-2,2'-diyl]bis(oxy)]bis-, dimethyl ester (9CI) (CA INDEX NAME)

RN 848079-27-6 CAPLUS

CN Propanoic acid, 2,2'-[[(1S)-6,6'-bis[bis(4-methoxy-3,5-dimethylphenyl)phosphino][1,1'-biphenyl]-2,2'-diyl]bis(oxy)]bis-, dimethyl ester (9CI) (CA INDEX NAME)

RN 848079-28-7 CAPLUS

CN Propanoic acid, 2,2'-[[(1R)-6,6'-bis[bis(4-methoxy-3,5-dimethylphenyl)phosphino][1,1'-biphenyl]-2,2'-diyl]bis(oxy)]bis-, diethyl ester (9CI) (CA INDEX NAME)

RN 848079-29-8 CAPLUS

CN Propanoic acid, 2,2'-[[(1S)-6,6'-bis[bis(4-methoxy-3,5-dimethylphenyl)phosphino][1,1'-biphenyl]-2,2'-diyl]bis(oxy)]bis-, diethyl ester (9CI) (CA INDEX NAME)

RN 848079-30-1 CAPLUS

CN Acetic acid, 2,2'-[[(1R)-6,6'-bis[bis(4-methoxy-3,5-dimethylphenyl)phosphino][1,1'-biphenyl]-2,2'-diyl]bis(oxy)]bis-, dimethyl ester (9CI) (CA INDEX NAME)

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RN848079-32-3 CAPLUS

CNAcetic acid, 2,2'-[[(1R)-6,6'-bis[bis(4-methoxy-3,5dimethylphenyl)phosphino][1,1'-biphenyl]-2,2'-diyl]bis(oxy)]bis-, diethyl ester (9CI) (CA INDEX NAME)

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RN

848079-33-4 CAPLUS Acetic acid, 2,2'-[[(1S)-6,6'-bis[bis(4-methoxy-3,5-CNdimethylphenyl)phosphino][1,1'-biphenyl]-2,2'-diyl]bis(oxy)]bis-, diethyl ester (9CI) (CA INDEX NAME)

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RN

848079-34-5 CAPLUS
Acetic acid, [[(1R)-2',6-bis[bis(4-methoxy-3,5-dimethylphenyl)phosphino]-6'-(cyclohexyloxy)[1,1'-biphenyl]-2-yl]oxy]-, methyl ester (9CI) (CA CN INDEX NAME)

RN 848079-35-6 CAPLUS

CN Acetic acid, [[(1S)-2',6-bis[bis(4-methoxy-3,5-dimethylphenyl)phosphino]-6'-(cyclohexyloxy)[1,1'-biphenyl]-2-yl]oxy]-, methyl ester (9CI) (CA INDEX NAME)

848079-36-7 CAPLUS
Acetic acid, [[(1R)-2',6-bis[bis(4-methoxy-3,5-dimethylphenyl)phosphino]-6'-(cyclohexyloxy)[1,1'-biphenyl]-2-yl]oxy]-, ethyl ester (9CI) (CA INDEX CNNAME)

848079-37-8 CAPLUS
Acetic acid, [[(1S)-2',6-bis[bis(4-methoxy-3,5-dimethylphenyl)phosphino]-6'-(cyclohexyloxy)[1,1'-biphenyl]-2-yl]oxy]-, ethyl ester (9CI) (CA INDEX CN NAME)

RN 848079-38-9 CAPLUS

CN Propanoic acid, 2,2'-[[(1R)-6,6'-bis[bis[3,5-bis(1,1-dimethylethyl)phenyl]phosphino][1,1'-biphenyl]-2,2'-diyl]bis(oxy)]bis-, dimethyl ester (9CI) (CA INDEX NAME)

$$t-Bu$$
 $t-Bu$
 $t-Bu$

RN 848079-39-0 CAPLUS

CN Propanoic acid, 2,2'-[[(1S)-6,6'-bis[bis[3,5-bis(1,1-dimethylethyl)phenyl]phosphino][1,1'-biphenyl]-2,2'-diyl]bis(oxy)]bis-, dimethyl ester (9CI) (CA INDEX NAME)

RN 848079-40-3 CAPLUS

CN Propanoic acid, 2,2'-[[(1R)-6,6'-bis[bis[3,5-bis(1,1-dimethylethyl)phenyl]phosphino][1,1'-biphenyl]-2,2'-diyl]bis(oxy)]bis-, diethyl ester (9CI) (CA INDEX NAME)

RN 848079-41-4 CAPLUS

CN Propanoic acid, 2,2'-[[(1S)-6,6'-bis[bis[3,5-bis(1,1-dimethylethyl)phenyl]phosphino][1,1'-biphenyl]-2,2'-diyl]bis(oxy)]bis-, diethyl ester (9CI) (CA INDEX NAME)

848079-42-5 CAPLUS
Acetic acid, 2,2'-[[(1R)-6,6'-bis[bis[3,5-bis(1,1-dimethylethyl)phenyl]phosphino][1,1'-biphenyl]-2,2'-diyl]bis(oxy)]bis-,dimethyl ester (9CI) (CA INDEX NAME) CN

RN 848079-43-6 CAPLUS
CN Acetic acid, 2,2'-[[(1S)-6,6'-bis[bis[3,5-bis(1,1-dimethylethyl)phenyl]phosphino][1,1'-biphenyl]-2,2'-diyl]bis(oxy)]bis-, dimethyl ester (9CI) (CA INDEX NAME)

848079-44-7 CAPLUS
Acetic acid, 2,2'-[[(1R)-6,6'-bis[bis[3,5-bis(1,1-dimethylethyl)phenyl]phosphino][1,1'-biphenyl]-2,2'-diyl]bis(oxy)]bis-, CNdiethyl ester (9CI) (CA INDEX NAME)

RN 848079-45-8 CAPLUS

CN Acetic acid, 2,2'-[[(1S)-6,6'-bis[bis[3,5-bis(1,1-dimethylethyl)phenyl]phosphino][1,1'-biphenyl]-2,2'-diyl]bis(oxy)]bis-, diethyl ester (9CI) (CA INDEX NAME)

848079-46-9 CAPLUS
Acetic acid, [[(1R)-2!,6-bis[bis[3,5-bis(1,1-dimethylethyl)phenyl]phosphin
o]-6'-(cyclohexyloxy)[1,1'-biphenyl]-2-yl]oxy]-, methyl ester (9CI) (CA
INDEX NAME) CN

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RN 848079-47-0 CAPLUS

Acetic acid, [[(1S)-2',6-bis[bis[3,5-bis(1,1-dimethylethyl)phenyl]phosphin CNo]-6'-(cyclohexyloxy)[1,1'-biphenyl]-2-yl]oxy]-, methyl ester (9CI) (CA INDEX NAME)

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RN

848079-48-1 CAPLUS
Acetic acid, [[(1R)-2',6-bis[bis[3,5-bis(1,1-dimethylethyl)phenyl]phosphin CN o]-6'-(cyclohexyloxy)[1,1'-biphenyl]-2-yl]oxy]-, ethyl ester (9CI) (CA INDEX NAME)

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RN

848079-49-2 CAPLUS
Acetic acid, [[(1S)-2',6-bis[bis[3,5-bis(1,1-dimethylethyl)phenyl]phosphin
o]-6'-(cyclohexyloxy)[1,1'-biphenyl]-2-yl]oxy]-, ethyl ester (9CI) (CA
INDEX NAME) CN

RN 848079-50-5 CAPLUS

CN Propanoic acid, 2,2'-[[(1R)-6,6'-bis[bis(4-fluorophenyl)phosphino][1,1'-biphenyl]-2,2'-diyl]bis(oxy)]bis-, dimethyl ester (9CI) (CA INDEX NAME)

RN 848079-51-6 CAPLUS

CN Propanoic acid, 2,2'-[[(1S)-6,6'-bis[bis(4-fluorophenyl)phosphino][1,1'-biphenyl]-2,2'-diyl]bis(oxy)]bis-, dimethyl ester (9CI) (CA INDEX NAME)

RN 848079-52-7 CAPLUS

CN Propanoic acid, 2,2'-[[(1R)-6,6'-bis[bis(4-fluorophenyl)phosphino][1,1'-biphenyl]-2,2'-diyl]bis(oxy)]bis-, diethyl ester (9CI) (CA INDEX NAME)

RN 848079-53-8 CAPLUS

CN Propanoic acid, 2,2'-[[(1S)-6,6'-bis[bis(4-fluorophenyl)phosphino][1,1'-biphenyl]-2,2'-diyl]bis(oxy)]bis-, diethyl ester (9CI) (CA INDEX NAME)

848079-54-9 CAPLUS
Acetic acid, 2,2'-[[(1R)-6,6'-bis[bis(4-fluorophenyl)phosphino][1,1'-biphenyl]-2,2'-diyl]bis(oxy)]bis-, dimethyl ester (9CI) (CA INDEX NAME) CN

RN

848079-55-0 CAPLUS Acetic acid, 2,2'-[[(1S)-6,6'-bis[bis(4-fluorophenyl)phosphino][1,1'-CN biphenyl]-2,2'-diyl]bis(oxy)]bis-, dimethyl ester (9CI) (CA INDEX NAME)

848079-56-1 CAPLUS
Acetic acid, 2,2'-[[(1R)-6,6'-bis[bis(4-fluorophenyl)phosphino][1,1'-biphenyl]-2,2'-diyl]bis(oxy)]bis-, diethyl ester (9CI) (CA INDEX NAME) CN

RN

848079-57-2 CAPLUS Acetic acid, 2,2'-[[(1S)-6,6'-bis[bis(4-fluorophenyl)phosphino][1,1'-CN biphenyl]-2,2'-diyl]bis(oxy)]bis-, diethyl ester (9CI) (CA INDEX NAME)

848079-58-3 CAPLUS RN

Acetic acid, [[(1R)-2',6-bis[bis(4-fluorophenyl)phosphino]-6'-CN(cyclohexyloxy)[1,1'-biphenyl]-2-yl]oxy]-, methyl ester (9CI) (CA INDEX NAME)

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RN

848079-59-4 CAPLUS Acetic acid, [[(1S)-2',6-bis[bis(4-fluorophenyl)phosphino]-6'-CN(cyclohexyloxy)[1,1'-biphenyl]-2-yl]oxy]-, methyl ester (9CI) (CA INDEX

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RN

848079-60-7 CAPLUS
Acetic acid, [[(1R)-2',6-bis[bis(4-fluorophenyl)phosphino]-6'(cyclohexyloxy)[1,1'-biphenyl]-2-yl]oxy]-, ethyl ester (9CI) (CA INDEX CN NAME)

848079-61-8 CAPLUS Acetic acid, [[(1S)-2',6-bis[bis(4-fluorophenyl)phosphino]-6'-CN (cyclohexyloxy)[1,1'-biphenyl]-2-yl]oxy]-, ethyl ester (9CI) (CA INDEX NAME)

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IT 848078-16-0P 848078-17-1P

> RL: PUR (Purification or recovery); RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)

(reduction; preparation of axial-chiral biphenyl-2,2'-diphosphines containing

> alkoxycarbonylalkoxy groups as ligands for asym. hydrogenation of ketones)

RN 848078-16-0 CAPLUS

CN Propanoic acid, 2,2'-[[(1s)-3,3'-dichloro-6,6'-bis(diphenylphosphinyl)[1,1'-biphenyl]-2,2'-diyl]bis(oxy)]bis-, dimethyl ester (9CI) (CA INDEX NAME)

RN 848078-17-1 CAPLUS

CN Propanoic acid, 2,2'-[[(1S)-3,3'-dichloro-6,6'-bis(diphenylphosphinyl)[1,1'-biphenyl]-2,2'-diyl]bis(oxy)]bis-, dimethyl ester, (2R,2'S)- (9CI) (CA INDEX NAME)

IT 848078-12-6P 848078-13-7P 848078-15-9P

RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)

(reduction; preparation of axial-chiral biphenyl-2,2'-diphosphines containing

alkoxycarbonylalkoxy groups as ligands for asym. hydrogenation of ketones)

RN 848078-12-6 CAPLUS

CN Acetic acid, 2,2'-[[(1S)-3,3'-dichloro-6,6'-bis(diphenylphosphinyl)[1,1'-biphenyl]-2,2'-diyl]bis(oxy)]bis-, dimethyl ester (9CI) (CA INDEX NAME)

848078-13-7 CAPLUS RN

Acetic acid, 2,2'-[[(1S)-3,3'-dichloro-6,6'-bis(diphenylphosphinyl)[1,1'-bis(diphenylphosphinyl)]CN biphenyl]-2,2'-diyl]bis(oxy)]bis-, diethyl ester (9CI) (CA INDEX NAME)

RN

848078-15-9 CAPLUS Acetic acid, [[(1S)-2'-(cyclohexyloxy)-6,6'-bis(diphenylphosphinyl)[1,1'-CN biphenyl]-2-yl]oxy]-, methyl ester (9CI) (CA INDEX NAME)

5

REFERENCE COUNT:

THERE ARE 5 CITED REFERENCES AVAILABLE FOR THIS

ANSWER 65 OF 212 CAPLUS COPYRIGHT 2007 ACS on STN

2005:181066 CAPLUS ACCESSION NUMBER:

142:280046 DOCUMENT NUMBER:

Process for the asymmetric hydrogenation of TITLE:

 β -amino ketones using transition metal complexes

of chiral bidentate phosphines as catalysts.

Lonza AG, Switz. PATENT ASSIGNEE(S):

SOURCE:

Eur. Pat. Appl., 15 pp.

CODEN: EPXXDW

DOCUMENT TYPE:

Patent

LANGUAGE:

English

FAMILY ACC. NUM. COUNT:

PATENT INFORMATION:

PA	PATENT NO.					KIND		DATE		APPLICATION NO.				DATE			
EP	1510517			A1		20050302		EP 2003-77734					20030901				
	R:	AT,	BE,	CH,	DE,	DK,	ES,	FR,	GB,	GR,	IT,	LI,	LU,	NL,	SE,	MC,	PT,
		IE.	SI.	LT.	LV,	FI,	RO,	MK,	CY,	AL,	TR.	BG,	CZ,	EE,	HU,	SK	
AU	2004						2005									0040	831
	WO 2005021527						WO 2004-EP9690					20040831					
		2005021527							2000 2000								
	W:	AE,	AG,	AL,	AM,	AT,	AU,	AZ,	BA,	BB,	BG,	BR,	BW,	BY,	BZ,	CA,	CH,
		CN,	co,	CR,	CU,	CZ,	DE,	DK,	DM,	DZ,	EC,	EE,	EG,	ES,	FI,	GB,	GD,
		•	•	•			ID,	•	•				•	•	•	-	-
		•	,	•	•	•	LV,	•	•	•	•	•		•	•		
				•	•	•	PL,	•	•			-	-	•	•		
			•	•		•	TZ,	•	•		•	-	•			-	-
	RW:						MW,										
	1,,,,						RU,										
		•		•	•	•	GR,			-			-			-	-
							CF,										
		•	•	•	DL,	ъ,	CL,	CO,	C1,	CI1,	011,	011,	υ _ν ,	O.,	111,	1111,	112,
r D	SN, TD, TG EP 1664014			A2 20060607			EP 2004-764655					20040831					
EF				CH			ES,								_		
	,						TR,							111,	24,	110,	,
CN	1842	-	ы,	ГI,	ΑΟ,		2006								2	0040	Ω 3 1
			0.2														
	JP 2007504192 NO 2006000763							JP 2006-525092 NO 2006-763					20040831 20060217				
													2.4				
	US 2006252945				AI	A1 20061109											
PRIORIT	IORITY APPLN. INFO.:										2003-77734 2004-EP9690						
							a.								W 2	0040	83T
					CASREACT 142:280046; MARPAT 142:280046												
GI																	

A process for the preparation of enantiomerically enriched or enantiomerically AΒ pure β -amino alcs. [I; X = S, O; R = (substituted) alkyl, cycloalkyl, aryl, aralkyl] comprises asym. hydrogenation of ketones (II; variables as above) using transition metal complexes of chiral bidentate phosphines as catalysts. Thus, 3-methylamino-1-(thien-2-yl)propan-1-one hydrochloride

(preparation given), NaOMe, (S,S)-Me-DuPhos, and [Rh(COD)2]BF4 were autoclaved together in MeOH at 30-34° and 30 bar H2 for 5 h to give 67%

(S)-3-methylamino-1-(2-thienyl)-1-propanol in >99% enantiomeric excess.

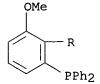
IT 133545-17-2

RL: CAT (Catalyst use); USES (Uses)

(asym. hydrogenation of aminoketones using transition metal complexes of chiral bidentate phosphines as catalysts)

RN 133545-17-2 CAPLUS

CN Phosphine, 1,1'-[(1S)-6,6'-dimethoxy[1,1'-biphenyl]-2,2'-diyl]bis[1,1-diphenyl- (CA INDEX NAME)





REFERENCE COUNT:

6 THERE ARE 6 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L3 ANSWER 66 OF 212 CAPLUS COPYRIGHT 2007 ACS on STN

ACCESSION NUMBER: 2005:159895 CAPLUS

DOCUMENT NUMBER: 142:240572

TITLE: Preparation of allyloxybiphenyl phosphorus ligands for

enantioselective catalysis

INVENTOR(S): Arlt, Dieter

PATENT ASSIGNEE(S): Germany

SOURCE: Ger. Offen., 5 pp.

CODEN: GWXXBX

DOCUMENT TYPE: Patent LANGUAGE: German

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
DE 10335950	A1	20050224	DE 2003-10335950	20030804
PRIORITY APPLN. INFO.:			DE 2003-10335950	20030804
OTHER SOURCE(S):	CASREA	ACT 142:24057	2; MARPAT 142:240572	

$$R^3R^4C = CR^5R^6R^7C$$
HO
 $P(O)_nR^1R^2$

Preparation of 6,6'-bis-allyloxybiphenyl derivs., I (R1, R2 = alkoxy, aryloxy, alkyl, cycloalkyl, aryl, hetaryl, etc.; R3-R7 = H, alkyl, aryl, etc.; Y = H, alkyl, alkoxy, etc.; n = 0-1), contained phosphorus in 2 and 2'-position, useful as ligands for transition metal complexes, which are useful as catalysts for enantioselective hydrogenations and isomerizations, is described. These rearrangement products, if they are present in chiral form, can be converted by a new isomerization procedure into mixts. of the atropisomers. Thus, reaction of (R)-(6,6'-dihydroxybiphenyl-2,2'-diyl) bis(diphenylphosphine oxide) with K2CO3 in DMF gave 90.7% (R)-(6,6'-bisallyloxybiphenyl-2,2'-diyl) bis(diphenylphosphine oxide).

IT 524711-75-9

RL: RCT (Reactant); RACT (Reactant or reagent)
(preparation of allyloxybiphenyl phosphorus ligands for transition metal
catalyzed enantioselective catalysis)

RN 524711-75-9 CAPLUS

CN [1,1'-Biphenyl]-2,2'-diol, 6,6'-bis(diphenylphosphinyl)-, (1R)- (9CI) (CA INDEX NAME)

IT 844679-25-0P 844679-26-1P

RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)

(preparation of allyloxybiphenyl phosphorus ligands for transition metal catalyzed enantioselective catalysis)

RN 844679-25-0 CAPLUS

CN Phosphine oxide, [(1R)-6,6'-bis(2-propenyloxy)[1,1'-biphenyl]-2,2'-diyl]bis[diphenyl- (9CI) (CA INDEX NAME)

RN 844679-26-1 CAPLUS

CN [1,1'-Biphenyl]-2,2'-diol, 6,6'-bis(diphenylphosphinyl)-3,3'-di-2-propenyl-, (1R)- (9CI) (CA INDEX NAME)

IT 844450-47-1P

RL: SPN (Synthetic preparation); PREP (Preparation)

(preparation of allyloxybiphenyl phosphorus ligands for transition metal catalyzed enantioselective catalysis)

RN 844450-47-1 CAPLUS

CN [1,1'-Biphenyl]-2,2'-diol, 6,6'-bis(diphenylphosphinyl)-3,3'-di-2-propenyl-(9CI) (CA INDEX NAME)

$$Ph-P-Ph$$
 $Ph-P-Ph$
 H_2C
 $CH-CH_2$
 CH_2-CH
 CH_2

L3 ANSWER 67 OF 212 CAPLUS COPYRIGHT 2007 ACS on STN

ACCESSION NUMBER:

2005:58129 CAPLUS

DOCUMENT NUMBER:

142:137081

TITLE:

Preparation of biphenyldiphosphine compounds useful in

asymmetric reactions

INVENTOR(S):

Chan, Albert Sun-chi; Qiu, Liqin

PATENT ASSIGNEE(S):

The Hong Kong Polytechnic University, Hong Kong

SOURCE: U.S. Pat. Appl. Publ., 18 pp.

CODEN: USXXCO

DOCUMENT TYPE:

Patent

LANGUAGE:

English

FAMILY ACC. NUM. COUNT:

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE		
US 2005014633	A1	20050120	US 2004-888820	20040709		
US 7094725	B2	20060822				

MARPAT 142:137081

GΙ

AB The present invention provides compds. of the formula I wherein R = optionally substituted lower alkyl, cycloalkyl or aryl; R' = alkyl or aryl; n = 0, 1, or 2; or an enantiomer thereof; or an enantiomeric mixture thereof. The compds. of formula I are bridged C2-sym. biphenyldiphosphine analogs and, thus, may be employed as ligands to generate chiral transition metal catalysts which may be applied in a variety of asym. reactions. The compds. of the present invention are easily accessible in high diastereomeric and optical purity according to the methods disclosed herein.

IT 524711-75-9P 679422-50-5P
 RL: IMF (Industrial manufacture); RCT (Reactant); PREP (Preparation); RACT
 (Reactant or reagent)

(preparation of biphenyldiphosphine compds. useful in asym. reactions)

RN 524711-75-9 CAPLUS

CN [1,1'-Biphenyl]-2,2'-diol, 6,6'-bis(diphenylphosphinyl)-, (1R)- (9CI) (CA INDEX NAME)

RN 679422-50-5 CAPLUS
CN [1,1'-Biphenyl]-2,2'-diol, 6,6'-bis(diphenylphosphinyl)-, (1S)- (9CI) (CA INDEX NAME)

IT 133577-82-9 133577-84-1

RL: RCT (Reactant); RACT (Reactant or reagent)

(preparation of biphenyldiphosphine compds. useful in asym. reactions)

RN 133577-82-9 CAPLUS

CN Phosphine oxide, (6,6'-dimethoxy[1,1'-biphenyl]-2,2'-diyl)bis[diphenyl-, (1R)- (9CI) (CA INDEX NAME)

RN 133577-84-1 CAPLUS

CN Phosphine oxide, [(1S)-6,6'-dimethoxy[1,1'-biphenyl]-2,2'-diyl]bis[diphenyl- (9CI) (CA INDEX NAME)

L3 ANSWER 68 OF 212 CAPLUS COPYRIGHT 2007 ACS on STN

ACCESSION NUMBER:

2005:55190 CAPLUS

DOCUMENT NUMBER:

142:134919

TITLE:

Process for production of optically active

 β -hydroxy- α -aminocarboxylic acid

derivatives by asymmetric hydrogenation of

 α -aminoacylacetate ester

INVENTOR(S):

PATENT ASSIGNEE(S):

Hamada, Yasumasa; Makino, Kazuishi Nissan Chemical Industries, Ltd., Japan

PCT Int. Appl., 63 pp.

CODEN: PIXXD2

DOCUMENT TYPE:

Patent Japanese

LANGUAGE:

SOURCE:

FAMILY ACC. NUM. COUNT:

PATENT INFORMATION:

PATENT NO.	KIND DATE	APPLICATION NO.	DATE			
WO 2005005371		WO 2004-JP9829	20040709			
W: AE, AG, AL,	AM, AT, AU, AZ,	BA, BB, BG, BR, BW,	BY, BZ, CA, CH,			
CN, CO, CR,	CU, CZ, DE, DK,	DM, DZ, EC, EE, EG,	ES, FI, GB, GD,			
GE, GH, GM,	HR, HU, ID, IL,	IN, IS, JP, KE, KG,	KP, KR, KZ, LC,			
LK, LR, LS,	LT, LU, LV, MA,	MD, MG, MK, MN, MW,	MX, MZ, NA, NI,			
NO, NZ, OM,	PG, PH, PL, PT,	RO, RU, SC, SD, SE,	SG, SK, SL, SY,			
TJ, TM, TN,	TR, TT, TZ, UA,	UG, US, UZ, VC, VN,	YU, ZA, ZM, ZW			
		NA, SD, SL, SZ, TZ,				
		TM, AT, BE, BG, CH,				
		IE, IT, LU, MC, NL,				
		CI, CM, GA, GN, GQ,				
SN, TD, TG	, , , , , ,					
CA 2531898	A1 20050120	CA 2004-2531898	20040709			
		EP 2004-747297				
R: AT, BE, CH,	DE, DK, ES, FR,	GB, GR, IT, LI, LU,	NL, SE, MC, PT,			
		CY, AL, TR, BG, CZ,				
		CN 2004-80019827				
US 2006167300 A1 2006072						
PRIORITY APPLN. INFO.:		JP 2003-272637				
		JP 2003-426226	A 20031224			
	•	WO 2004-JP9829	W 20040709			
OTHER SOURCE(S): GI	MARPAT 142:1349	19				

OH
$$CO_2R^2$$
 R^1 CO_2R^2 R^1 CO_2R^2 R^1 CO_2R^2 R^1 CO_2R^2 CO_2R^2

There is provided a process for efficient production of optically active AB β -hydroxy- α -aminocarboxylic acid derivs. of anti conformation represented by the general formula (I) or (II) [wherein R1, R2 = (un) substituted C1-20 alkyl or C4-12 aromatic group], characterized by hydrogenating an α -aminoacylacetate ester represented by the general formula (III) [wherein R1 and R2 are each as defined above] through catalytic asym. hydrogenation in the presence of an acid and ruthenium-(S)- or (R)-BINAP or iridium-(S)-MeO-Biphep complex. compds. I and II are useful as intermediates of drugs or agricultural chems. Thus, 169.2 mg Me 2-amino-4-methyl-3-oxopentanoate hydrochloride was dissolved in 2.0 mL MeOH and the resulting solution was added to [RuCl2(S)-BINAP](DMF)n which was prepared from [RuCl2(C6H6)]2 and 25.3 mg (S)-BINAP. The resulting mixture was heated under H at H pressure of 100 atm and 50° for 48 h, followed by benzoylation of the product with benzoyl chloride in the presence of Et3N in THF to give 71% Me (25,3S)-(+)-2-benzoylamino-3-hydroxy-4-methylpentanoate (56% ee).

OMe R PPh2

Ph₂P R MeO

REFERENCE COUNT: 5 THERE ARE 5 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L3 ANSWER 69 OF 212 CAPLUS COPYRIGHT 2007 ACS on STN

ACCESSION NUMBER:

2005:10321 CAPLUS

DOCUMENT NUMBER:

142:240180

TITLE:

Catalytic desymmetrizing intramolecular Heck reaction: Evidence for an unusual hydroxy-directed migratory

insertion

AUTHOR(S):

Oestreich, Martin; Sempere-Culler, Fernando; Machotta,

Axel B.

CORPORATE SOURCE:

Institut fuer Organische Chemie und Biochemie,

Albert-Ludwigs-Universitaet, Freiburg im Breisgau,

79104, Germany

SOURCE:

Angewandte Chemie, International Edition (2005),

44(1), 149-152

CODEN: ACIEF5; ISSN: 1433-7851 Wiley-VCH Verlag GmbH & Co. KGaA

PUBLISHER: DOCUMENT TYPE:

Journal

LANGUAGE:

English

OTHER SOURCE(S):

CASREACT 142:240180

GI

OH OH Ph Ph Ph II

AB Mild cationic reaction conditions are used for the efficient

desymmetrization of prochiral bishomoallylic alcs. I (X = Br, F3CSO2O) in an intramol. Heck reaction resulting in formation of tetrahydronaphthalenol II. This is the first example of a group-selective Heck cyclization in which the enantiotopic alkene moieties are not incorporated into a cyclic and, therefore, rigid system. The high enantioselectivity is attributed to the hydroxy group functioning as a catalyst-directing group, which could be a novel feature in asym. Heck chemical

IT185913-98-8

RL: CAT (Catalyst use); USES (Uses)

(asym. synthesis of (benzylidene) tetrahydronaphthalenols and analogs via desymmetrizing intramol. Heck reaction of bis(homoallylic) alcs.)

RN 185913-98-8 CAPLUS

Phosphine, [(1S)-5,5'-dichloro-6,6'-dimethoxy[1,1'-biphenyl]-2,2'-CN diyl]bis[diphenyl- (9CI) (CA INDEX NAME)

REFERENCE COUNT: 31 THERE ARE 31 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

ANSWER 70 OF 212 CAPLUS COPYRIGHT 2007 ACS on STN

2004:1127391 CAPLUS ACCESSION NUMBER:

DOCUMENT NUMBER:

142:56522

TITLE:

Chiral ligands for application in asymmetric syntheses

Meseguer, Benjamin; Arlt, Dieter INVENTOR(S):

PATENT ASSIGNEE(S):

Bayer Chemicals Ag, Germany

SOURCE:

PCT Int. Appl., 28 pp.

CODEN: PIXXD2

DOCUMENT TYPE:

Patent

LANGUAGE:

German

FAMILY ACC. NUM. COUNT:

PATENT INFORMATION:

PATENT NO.				KIND		DATE		i	APPL:	ICAT:	ION I	DATE					
WO 2004111063 WO 2004111063				A2 20041223 A3 20050331		WO 2004-EP5930					20040602						
	W:	AE,	AG,	AL,	AM,	AT,	AU,	AZ,	BA,	BB,	BG,	BR,	BW,	BY,	BZ,	CA,	CH,
		CN,	CO,	CR,	CU,	CZ,	DE,	DK,	DM,	DZ,	EC,	EE,	EG,	ES,	FI,	GB,	GD,
		GE,	GH,	GM,	HR,	HU,	ID,	IL,	IN,	IS,	JP,	KE,	KG,	KP,	KR,	ΚZ,	LC,
		LK,	LR,	LS,	LT,	LU,	LV,	MA,	MD,	MG,	MK,	MN,	MW,	MX,	MZ,	NA,	NI,
		NO,	NZ,	OM,	PG,	PH,	PL,	PT,	RO,	RU,	SC,	SD,	SE,	SG,	SK,	SL,	SY,
		ТJ,	TM,	TN,	TR,	TT,	TZ,	UA,	ŬĠ,	US,	·UZ,	VC,	VN,	ΥU,	ZA,	ZM,	ZW
	RW:	BW,	GH,	GM,	KE,	LS,	MW,	MZ,	NA,	SD,	SL,	SZ,	TZ,	UG,	ZM,	ZW,	AM,
		ΑZ,	BY,	KG,	ΚZ,	MD,	RU,	ТJ,	TM,	ΑT,	BE,	BG,	CH,	CY,	CZ,	DE,	DK,
		EE,	ES,	FI,	FR,	GB,	GR,	HU,	IE,	IT,	LU,	MC,	NL,	PL,	PT,	RO,	SE,
		SI,	SK,	TR,	BF,	ВJ,	CF,	CG,	CI,	CM,	GA,	GN,	GQ,	GW,	ML,	MR,	NE,
		SN,	TD,	TG													
DE	1032	7109			A1		20041230			DE 2003-10327109				20030613			
DE	1033	7013			A1		2005	0331	31 DE 2003-10337013 20030812						812		

```
20040602
                                             EP 2004-739512
                                20060322
    EP 1636243
                          A2
        R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT,
             IE, SI, FI, RO, CY, TR, BG, CZ, EE, HU, PL, SK
                                                                    20040602
                          Т
                                20061130
                                             JP 2006-515817
     JP 2006527221
                                                                    20051208
                                20060720
                                            US 2005-298641
    US 2006161022
                          A1
                                            US 2006-571722
                                                                    20060313
                          A1
                                20070104
     US 2007004927
                                             DE 2003-10327109
                                                                 A 20030613
PRIORITY APPLN. INFO.:
                                             DE 2003-10337013
                                                                 A 20030812
                                                                 W 20040602
                                             WO 2004-EP5930
                         CASREACT 142:56522; MARPAT 142:56522
OTHER SOURCE(S):
GΙ
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Ι

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The invention relates to the preparation of biarylbisphosphines I (B =
ΑB
     (CHR1)n(R2C:CR3)(CHR4)m, R1-R4 = H, alkyl, n, m = 1-8; G = Cl, H; R', R''
     = aryl, alkyl) and intermediates thereof. Furthermore, the invention
     relates to catalysts produced from the biarylbisphosphines and the use
     thereof in asym. syntheses. Thus, reaction of (S)-[5,5'-dichloro-6,6'-
     dihydroxybiphenyl-2,2'-diyl]bis(diphenylphosphine oxide) with allyl
     chloride in DMF in the presence of K2CO3 gave (S)-[5,5'-dichloro-6,6'-(1,4-
     but-2-enedioxy)biphenyl-2,2'-diyl]bis(diphenylphosphine oxide) as
     cocatalyst for ruthenium catalyzed enantioselective hydrogenation.
IT
     810674-60-3P 810674-65-8P 810674-66-9P
     810674-70-5P 810674-71-6P 810674-72-7P
     810674-73-8P 810674-74-9P 810674-75-0P
     810674-76-1P 810674-77-2P 810674-78-3P
     810674-79-4P 810674-80-7P 810674-81-8P
     810674-82-9P 810674-83-0P 810674-84-1P
     810674-85-2P 810674-86-3P 810674-87-4P
     810674-88-5P 810674-89-6P 810674-90-9P
     810674-91-0P 810674-92-1P 810674-93-2P
     810674-94-3P 810674-95-4P 810674-96-5P
     810674-97-6P 810674-98-7P 810674-99-8P
     810675-00-4P 810675-01-5P 810675-02-6P
     810675-03-7P 810675-19-5P 810675-20-8P
     810675-21-9P 810675-22-0P 810675-23-1P
     810675-24-2P 810675-25-3P 810675-26-4P
     810675-27-5P
     RL: CAT (Catalyst use); SPN (Synthetic preparation); PREP (Preparation);
     USES (Uses)
        (preparation of biarylbisphosphines as chiral ligands for ruthenium complex
        catalyzed enantioselective hydrogenation or in asym. synthesis)
     810674-60-3 CAPLUS
RN
     Phosphine oxide, [(1S)-5,5'-dichloro-6,6'-bis(2-propenyloxy)[1,1'-
CN
     biphenyl]-2,2'-diyl]bis[diphenyl- (9CI) (CA INDEX NAME)
```

RN 810674-65-8 CAPLUS

CN 3-Hexen-1-ol, 6,6'-[[(1S)-6,6'-bis(diphenylphosphino)[1,1'-biphenyl]-2,2'-diyl]bis(oxy)]bis-, (3Z,3'Z)- (9CI) (CA INDEX NAME)

RN 810674-66-9 CAPLUS

CN 2-Buten-1-ol, 4,4'-[[(1S)-3,3'-dichloro-6,6'-bis(diphenylphosphino)[1,1'-biphenyl]-2,2'-diyl]bis(oxy)]bis-, (2Z,2'Z)- (9CI) (CA INDEX NAME)

RN 810674-70-5 CAPLUS

CN 1-Butanol, 4,4'-[[(1S)-3,3'-dichloro-6,6'-bis(diphenylphosphino)[1,1'-biphenyl]-2,2'-diyl]bis(oxy)]bis- (9CI) (CA INDEX NAME)

RN 810674-71-6 CAPLUS
CN 1-Propanol, 3,3'-[[(1S)-3,3'-dichloro-6,6'-bis(diphenylphosphino)[1,1'-biphenyl]-2,2'-diyl]bis(oxy)]bis- (9CI) (CA INDEX NAME)

RN 810674-72-7 CAPLUS CN 2-Buten-1-ol, 4,4'-[[(1R)-3,3'-dichloro-6,6'-bis(dicyclohexylphosphino)[1,1'-biphenyl]-2,2'-diyl]bis(oxy)]bis-, (2Z,2'Z)- (9CI) (CA INDEX NAME)

RN 810674-73-8 CAPLUS
CN 2-Buten-1-ol, 4,4'-[[(1R)-6,6'-bis[bis[3,5-bis(1,1-dimethylethyl)-4-methoxyphenyl]phosphino]-3,3'-dichloro[1,1'-biphenyl]-2,2'-diyl]bis(oxy)]bis-, (2Z,2'Z)- (9CI) (CA INDEX NAME)

PAGE 1-A

PAGE 2-A

RN 810674-74-9 CAPLUS

CN 2-Buten-1-ol, 4,4'-[[(1R)-6,6'-bis[bis(3,5-dimethylphenyl)phosphino]-3,3'-dichloro[1,1'-biphenyl]-2,2'-diyl]bis(oxy)]bis-, (2Z,2'Z)- (9CI) (CA INDEX NAME)

RN 810674-75-0 CAPLUS

CN 2-Buten-1-ol, 4,4'-[[(1R)-6,6'-bis[bis(4-methoxy-3,5-dimethylphenyl)phosphino]-3,3'-dichloro[1,1'-biphenyl]-2,2'-diyl]bis(oxy)]bis-, (2Z,2'Z)- (9CI) (CA INDEX NAME)

RN 810674-76-1 CAPLUS

CN 2-Buten-1-ol, 4,4'-[[(1R)-6,6'-bis[bis(4-fluorophenyl)phosphino]-3,3'-dichloro[1,1'-biphenyl]-2,2'-diyl]bis(oxy)]bis-, (2Z,2'Z)- (9CI) (CA INDEX NAME)

PAGE 2-A

RN

810674-77-2 CAPLUS
2-Buten-1-ol, 4,4'-[[(1R)-6,6'-bis[bis[3,5-bis(1,1-dimethylethyl)phenyl]phosphino]-3,3'-dichloro[1,1'-biphenyl]-2,2'-diyl]bis(oxy)]bis-, (2Z,2'Z)- (9CI) (CA INDEX NAME) CN

810674-78-3 CAPLUS RN

1-Propanol, 3,3'-[[(1R)-3,3'-dichloro-6,6'-bis(diphenylphosphino)[1,1'-CN biphenyl]-2,2'-diyl]bis(oxy)]bis- (9CI) (CA INDEX NAME)

810674-79-4 CAPLUS RN

1-Propanol, 3,3'-[[(1R)-3,3'-dichloro-6,6'-bis(dicyclohexylphosphino)[1,1'-CN biphenyl]-2,2'-diyl]bis(oxy)]bis- (9CI) (CA INDEX NAME)

RN

810674-80-7 CAPLUS 1-Propanol, 3,3'-[[(1S)-3,3'-dichloro-6,6'-bis(dicyclohexylphosphino)[1,1'-CN biphenyl]-2,2'-diyl]bis(oxy)]bis- (9CI) (CA INDEX NAME)

RN 810674-81-8 CAPLUS

CN 1-Propanol, 3,3'-[[(1R)-6,6'-bis[bis[3,5-bis(1,1-dimethylethyl)-4-methoxyphenyl]phosphino]-3,3'-dichloro[1,1'-biphenyl]-2,2'-diyl]bis(oxy)]bis-(9CI) (CA INDEX NAME)

RN 810674-82-9 CAPLUS

CN 1-Propanol, 3,3'-[[(1S)-6,6'-bis[bis[3,5-bis(1,1-dimethylethyl)-4-methoxyphenyl]phosphino]-3,3'-dichloro[1,1'-biphenyl]-2,2'-diyl]bis(oxy)]bis- (9CI) (CA INDEX NAME)

RN 810674-83-0 CAPLUS
CN 1-Propanol, 3,3'-[[(1R)-6,6'-bis[bis(3,5-dimethylphenyl)phosphino]-3,3'-dichloro[1,1'-biphenyl]-2,2'-diyl]bis(oxy)]bis-(9CI) (CA INDEX NAME)

RN 810674-84-1 CAPLUS
CN 1-Propanol, 3,3'-[[(1S)-6,6'-bis[bis(3,5-dimethylphenyl)phosphino]-3,3'-dichloro[1,1'-biphenyl]-2,2'-diyl]bis(oxy)]bis-(9CI) (CA INDEX NAME)

RN 810674-85-2 CAPLUS
CN 1-Propanol, 3,3'-[[(1R)-6,6'-bis[bis(4-methoxy-3,5-dimethylphenyl)phosphino]-3,3'-dichloro[1,1'-biphenyl]-2,2'-diyl]bis(oxy)]bis- (9CI) (CA INDEX NAME)

RN 810674-86-3 CAPLUS
CN 1-Propanol, 3,3'-[[(1S)-6,6'-bis[bis(4-methoxy-3,5-dimethylphenyl)phosphino]-3,3'-dichloro[1,1'-biphenyl]-2,2'-diyl]bis(oxy)]bis- (9CI) (CA INDEX NAME)

RN 810674-87-4 CAPLUS
CN 1-Propanol, 3,3'-[[(1R)-6,6'-bis[bis(4-fluorophenyl)phosphino]-3,3'-dichloro[1,1'-biphenyl]-2,2'-diyl]bis(oxy)]bis- (9CI) (CA INDEX NAME)

RN 810674-88-5 CAPLUS
CN 1-Propanol, 3,3'-[[(1S)-6,6'-bis[bis(4-fluorophenyl)phosphino]-3,3'-dichloro[1,1'-biphenyl]-2,2'-diyl]bis(oxy)]bis- (9CI) (CA INDEX NAME)

RN 810674-89-6 CAPLUS
CN 1-Propanol, 3,3'-[[(1R)-6,6'-bis[bis[3,5-bis(1,1-dimethylethyl)phenyl]phosphino]-3,3'-dichloro[1,1'-biphenyl]-2,2'-diyl]bis(oxy)]bis- (9CI) (CA INDEX NAME)

RN 810674-90-9 CAPLUS
CN 1-Propanol, 3,3'-[[(1S)-6,6'-bis[bis[3,5-bis(1,1-dimethylethyl)phenyl]phosphino]-3,3'-dichloro[1,1'-biphenyl]-2,2'-diyl]bis(oxy)]bis- (9CI) (CA INDEX NAME)

$$t-Bu$$
 $Bu-t$
 $t-Bu$
 P
 $(CH_2)_3$
 $t-Bu$
 $Bu-t$
 $Bu-t$
 $Bu-t$

RN 810674-91-0 CAPLUS
CN 1-Butanol, 3,3'-[[(1R)-3,3'-dichloro-6,6'-bis(diphenylphosphino)[1,1'-biphenyl]-2,2'-diyl]bis(oxy)]bis-(9CI) (CA INDEX NAME)

RN 810674-92-1 CAPLUS
CN Phosphine oxide, [(1R)-5,5'-dichloro-6,6'-bis(2-propenyloxy)[1,1'-biphenyl]-2,2'-diyl]bis[dicyclohexyl- (9CI) (CA INDEX NAME)

RN 810674-93-2 CAPLUS

CN Phosphine oxide, [(1S)-5,5'-dichloro-6,6'-bis(2-propenyloxy)[1,1'-biphenyl]-2,2'-diyl]bis[dicyclohexyl- (9CI) (CA INDEX NAME)

RN 810674-94-3 CAPLUS

CN Phosphine oxide, [(1R)-5,5'-dichloro-6,6'-bis(2-propenyloxy)[1,1'-biphenyl]-2,2'-diyl]bis[bis[3,5-bis(1,1-dimethylethyl)-4-methoxyphenyl]-(9CI) (CA INDEX NAME)

RN 810674-95-4 CAPLUS
CN Phosphine oxide, [(1S)-5,5'-dichloro-6,6'-bis(2-propenyloxy)[1,1'-biphenyl]-2,2'-diyl]bis[bis[3,5-bis(1,1-dimethylethyl)-4-methoxyphenyl]-(9CI) (CA INDEX NAME)

RN 810674-96-5 CAPLUS

CN Phosphine oxide, [(1R)-5,5'-dichloro-6,6'-bis(2-propenyloxy)[1,1'-biphenyl]-2,2'-diyl]bis[bis(3,5-dimethylphenyl)- (9CI) (CA INDEX NAME)

RN 810674-97-6 CAPLUS

CN Phosphine oxide, [(1S)-5,5'-dichloro-6,6'-bis(2-propenyloxy)[1,1'-biphenyl]-2,2'-diyl]bis[bis(3,5-dimethylphenyl)- (9CI) (CA INDEX NAME)

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RN 810674-98-7 CAPLUS

CN Phosphine oxide, [(1R)-5,5'-dichloro-6,6'-bis(2-propenyloxy)[1,1'-biphenyl]-2,2'-diyl]bis[bis(4-methoxy-3,5-dimethylphenyl)- (9CI) (CA INDEX NAME)

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RN 810674-99-8 CAPLUS

CN Phosphine oxide, [(1S)-5,5'-dichloro-6,6'-bis(2-propenyloxy)[1,1'-biphenyl]-2,2'-diyl]bis[bis(4-methoxy-3,5-dimethylphenyl)- (9CI) (CA INDEX NAME)

PAGE 2-A

RN 810675-00-4 CAPLUS

CN Phosphine oxide, [(1R)-5,5'-dichloro-6,6'-bis(2-propenyloxy)[1,1'-biphenyl]-2,2'-diyl]bis[bis(4-fluorophenyl)- (9CI) (CA INDEX NAME)

PAGE 2-A

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RN 810675-01-5 CAPLUS

CN Phosphine oxide, [(1S)-5,5'-dichloro-6,6'-bis(2-propenyloxy)[1,1'-biphenyl]-2,2'-diyl]bis[bis(4-fluorophenyl)- (9CI) (CA INDEX NAME)

PAGE 1-A

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RN 810675-02-6 CAPLUS

CN Phosphine oxide, [(1R)-5,5'-dichloro-6,6'-bis(2-propenyloxy)[1,1'-biphenyl]-2,2'-diyl]bis[bis[3,5-bis(1,1-dimethylethyl)phenyl]- (9CI) (CA INDEX NAME)

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RN 810675-03-7 CAPLUS

CN Phosphine oxide, [(1S)-5,5'-dichloro-6,6'-bis(2-propenyloxy)[1,1'-biphenyl]-2,2'-diyl]bis[bis[3,5-bis(1,1-dimethylethyl)phenyl]- (9CI) (CA INDEX NAME)

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RN

810675-19-5 CAPLUS 2-Buten-1-ol, 4,4'-[[(1R)-6,6'-bis(diphenylphosphinyl)[1,1'-biphenyl]-2,2'-diyl]bis(oxy)]bis-, (2Z,2'Z)- (9CI) (CA INDEX NAME) CN

810675-20-8 CAPLUS RN

2-Buten-1-ol, 4,4'-[[(1R)-3,3'-dichloro-6,6'-bis(diphenylphosphino)[1,1'-CN biphenyl]-2,2'-diyl]bis(oxy)]bis-, (2Z,2'Z)- (9CI) (CA INDEX NAME)

RN

810675-21-9 CAPLUS 2-Buten-1-ol, 4,4'-[[(1S)-3,3'-dichloro-6,6'-bis(dicyclohexylphosphino)[1,1'-biphenyl]-2,2'-diyl]bis(oxy)]bis-, (2Z,2'Z)- (9CI) (CA INDEX NAME) CN

810675-22-0 CAPLUS RN

2-Buten-1-ol, 4,4'-[[(1S)-6,6'-bis[bis[3,5-bis(1,1-dimethylethyl)-4-methoxyphenyl]phosphino]-3,3'-dichloro[1,1'-biphenyl]-2,2'-diyl]bis(oxy)]bis-, (2Z,2'Z)- (9CI) (CA INDEX NAME) CN

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RN 810675-23-1 CAPLUS

CN 2-Buten-1-ol, 4,4'-[[(1S)-6,6'-bis[bis(3,5-dimethylphenyl)phosphino]-3,3'-dichloro[1,1'-biphenyl]-2,2'-diyl]bis(oxy)]bis-, (2Z,2'Z)- (9CI) (CA INDEX NAME)

RN 810675-24-2 CAPLUS

CN 2-Buten-1-ol, 4,4'-[[(1S)-6,6'-bis[bis(4-methoxy-3,5-dimethylphenyl)phosphino]-3,3'-dichloro[1,1'-biphenyl]-2,2'-diyl]bis(oxy)]bis-, (2Z,2'Z)- (9CI) (CA INDEX NAME)

RN 810675-25-3 CAPLUS

CN 2-Buten-1-ol, 4,4'-[[(1S)-6,6'-bis[bis(4-fluorophenyl)phosphino]-3,3'-dichloro[1,1'-biphenyl]-2,2'-diyl]bis(oxy)]bis-, (2Z,2'Z)- (9CI) (CA INDEX NAME)

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RN

810675-26-4 CAPLUS
2-Buten-1-ol, 4,4'-[[(1S)-6,6'-bis[bis[3,5-bis(1,1-dimethylethyl)phenyl]phosphino]-3,3'-dichloro[1,1'-biphenyl]-2,2'-diyl]bis(oxy)]bis-, (2Z,2'Z)- (9CI) (CA INDEX NAME) CN

RN 810675-27-5 CAPLUS

CN 1-Butanol, 3,3'-[[(1S)-3,3'-dichloro-6,6'-bis(diphenylphosphino)[1,1'-biphenyl]-2,2'-diyl]bis(oxy)]bis-(9CI) (CA INDEX NAME)

IT 185913-95-5 524711-75-9

RL: RCT (Reactant); RACT (Reactant or reagent)

(preparation of biarylbisphosphines as chiral ligands for ruthenium complex catalyzed enantioselective hydrogenation or in asym. synthesis)

RN 185913-95-5 CAPLUS

CN Phosphine oxide, [(1S)-5,5'-dichloro-6,6'-dimethoxy[1,1'-biphenyl]-2,2'-diyl]bis[diphenyl- (9CI) (CA INDEX NAME)

RN 524711-75-9 CAPLUS

CN [1,1'-Biphenyl]-2,2'-diol, 6,6'-bis(diphenylphosphinyl)-, (1R)- (9CI) (CA INDEX NAME)

RN 810674-62-5 CAPLUS
CN 3-Hexen-1-ol, 6,6'-[[(1S)-6,6'-bis(diphenylphosphinyl)[1,1'-biphenyl]-2,2'-diyl]bis(oxy)]bis-, (3Z,3'Z)- (9CI) (CA INDEX NAME)

RN 810674-63-6 CAPLUS CN 2-Buten-1-ol, 4,4'-[[(1R)-6,6'-bis(diphenylphosphinyl)[1,1'-biphenyl]-2,2'-diyl]bis(oxy)]bis-, (2E,2'E)- (9CI) (CA INDEX NAME)

RN 810674-67-0 CAPLUS

CN 1-Propanol, 3,3'-[[(1S)-3,3'-dichloro-6,6'-bis(diphenylphosphinyl)[1,1'-biphenyl]-2,2'-diyl]bis(oxy)]bis-(9CI) (CA INDEX NAME)

RN 810674-68-1 CAPLUS

CN 1-Butanol, 4,4'-[[(1S)-3,3'-dichloro-6,6'-bis(diphenylphosphinyl)[1,1'-biphenyl]-2,2'-diyl]bis(oxy)]bis- (9CI) (CA INDEX NAME)

RN 810674-69-2 CAPLUS

CN 1-Butanol, 3,3'-[[(1S)-3,3'-dichloro-6,6'-bis(diphenylphosphinyl)[1,1'-biphenyl]-2,2'-diyl]bis(oxy)]bis- (9CI) (CA INDEX NAME)

CAPLUS COPYRIGHT 2007 ACS on STN ANSWER 71 OF 212

ACCESSION NUMBER:

2004:944307 CAPLUS

DOCUMENT NUMBER:

142:316861

TITLE:

Ir-catalyzed enantioselective hydrogenation of substituted aromatic pyridine and pyrazine rings

INVENTOR(S):

Zhou, Yongqui; Lu, Shengmei; Yang, Pengyu; Wang, Wenbo

Dalian Institute of Chemical Physics, Chinese Academy

PATENT ASSIGNEE(S):

of Sciences, Peop. Rep. China

SOURCE:

Faming Zhuanli Shenging Gongkai Shuomingshu, 9 pp.

CODEN: CNXXEV

DOCUMENT TYPE:

Patent

LANGUAGE:

Chinese

FAMILY ACC. NUM. COUNT:

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
			-	
CN 1468852	Α	20040121	CN 2003-138283	20030530
PRIORITY APPLN. INFO.:			CN 2003-138283	20030530

OTHER SOURCE(S): CASREACT 142:316861

Enantioselective hydrogenation of substituted/fused aromatic pyridine and pyrazine compds. was realized in a solvent in the presence of a iridium catalyst system at 0-80°C under 1-100 atmospheric The catalyst system is composed of iridium catalyst, additive and P/N/O/S-containing chiral ligand. The invented process features mild reaction condition (e.g., rt, normal pressure) and high e.e. (generally >90%), and can be used to synthesize some important compds., such as angustreine. For instance, 2-methylquinoline was hydrogenated under 30-50 atm in the presence of [Ir(CO)2Cl]2, iodine and (R)-2,2'-Bis(diphenylphosphino)-6,6'-dimethoxy-1,1'-diphenyl to give (R)-2-methyl-1,2,3,4-tetrahydroquinoline with 94% yield and 94% e.e.

133545-16-1 ΙT

RL: CAT (Catalyst use); USES (Uses)

(ligand; Ir-catalyzed enantioselective hydrogenation of substituted aromatic pyridine and pyrazine rings)

RN 133545-16-1 CAPLUS

Phosphine, 1,1'-[(1R)-6,6'-dimethoxy[1,1'-biphenyl]-2,2'-diyl]bis[1,1-CN diphenyl- (CA INDEX NAME)

L3 ANSWER 72 OF 212 CAPLUS COPYRIGHT 2007 ACS on STN

ACCESSION NUMBER:

2004:815427 CAPLUS

DOCUMENT NUMBER:

142:6242

TITLE:

Catalytic asymmetric carbonylative

silylcarbocyclization of enymes

AUTHOR(S):

Maerten, Eddy; Delerue, Helene; Queste, Mathieu;

Nowicki, Audrey; Suisse, Isabelle;

Agbossou-Niedercorn, Francine

CORPORATE SOURCE:

Laboratoire de Catalyse de Lille, ENSCL, UMR CNRS

8010, Villeneuve d'Ascq, 59652, Fr.

SOURCE:

Tetrahedron: Asymmetry (2004), 15(19), 3019-3022

CODEN: TASYE3; ISSN: 0957-4166

PUBLISHER:

Elsevier B.V.

DOCUMENT TYPE:

Journal

LANGUAGE:

English

OTHER SOURCE(S):

CASREACT 142:6242

GΙ

EtO
$$C \equiv CH$$

EtO O
 CH_2 I

EtO O

Me II

AB Rh-, Co- or Ir-promoted cyclization of 1,6-enynes in the presence of a hydrosilane and carbon monoxide leads to the selective formation of functionalized cyclic compds. Various chiral phosphine type ligands have been used in order to obtain enantiomerically enriched carbocycles. The asym. process proceeded with modest enantioselectivities. The catalyst was formed in situ by reaction of the metallic precursor with the reducing agent and the selected ligand. After 2 h the enyne was added, followed by

carbon monoxide. Thus, dimethyl (phenyl) silane was added to dicarbonyl (2,4-pentanedionato- κ O, κ O') rhodium/(R)-BINAP, then (2-propenyl) (2-propynyl) propanedioic acid di-Et ester (enyne) (I) was added, followed by carbon monoxide. The products thus formed were 3-[(dimethylphenylsilyl)methylene]-4-methyl-1,1-cyclopentanedicarboxylic acid di-Et ester (II) and 3-[(dimethylphenylsilyl)methylene]-4-methyl-1,1-cyclopentanedicarboxylic acid di-Et ester (III). The product ratio of II:III was 1:15, and III was formed in 27% enantiomeric excess.

IT 133545-16-1, [(1R)-6,6'-Dimethoxy[1,1'-biphenyl]-2,2'-

divl]bis[diphenylphosphine]

RL: RGT (Reagent); RACT (Reactant or reagent)

(preparation of cycloalkane derivative by carbonylative

silylcarbocyclization

using enyne, silane, and carbon monoxide as starting materials, rhodium, iridium, or cobalt as catalyst, and (R)-MeO-BIPHEP as chiral ligand)

RN 133545-16-1 CAPLUS

CN Phosphine, 1,1'-[(1R)-6,6'-dimethoxy[1,1'-biphenyl]-2,2'-diyl]bis[1,1-diphenyl- (CA INDEX NAME)

REFERENCE COUNT: 29 THERE ARE 29 CITED REFERENCES AVAILABLE FOR THIS

RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L3 ANSWER 73 OF 212 CAPLUS COPYRIGHT 2007 ACS on STN

ACCESSION NUMBER:

2004:792317 CAPLUS

DOCUMENT NUMBER:

141:424404

TITLE:

Synthesis of both syn and anti diastereoisomers of BOC-dolaproine from (S)-proline through DKR using ruthenium-catalyzed hydrogenation: a dramatic role of

N-protecting groups

AUTHOR(S):

Mordant, Celine; Reymond, Sebastien;

Ratovelomanana-Vidal, Virginie; Genet, Jean-Pierre

CORPORATE SOURCE:

Laboratoire de Synthese Selective Organique et Produits Naturels, E.N.S.C.P., UMR 7573, Paris,

F-75231, Fr.

SOURCE:

Tetrahedron (2004), 60(43), 9715-9723

CODEN: TETRAB; ISSN: 0040-4020

PUBLISHER:

Elsevier B.V.

DOCUMENT TYPE:

Journal

LANGUAGE:

English

OTHER SOURCE(S):

CASREACT 141:424404

GI

AB The natural (2R,3R)-BOC-dolaproine (I) and its unnatural (2S,3S)-diastereoisomer were synthesized involving as key transformation the Ru(II)-promoted hydrogenation of the β -keto- α -Me ester derived from (S)-N-BOC-proline. Interestingly, the asym. hydrogenation of this β -keto ester N-protected as an amine hydrochloride salt, provided the corresponding anti (2S,3R)- and (2R,3S)- β -hydroxy- α -Me esters with significant level of selectivities through dynamic kinetic resolution

IT 133545-16-1, (R)-MeO-BIPHEP 133545-17-2

Ι

RL: CAT (Catalyst use); USES (Uses)

(asym. synthesis of both syn and anti diastereoisomers of BOC-dolaproine from (S)-proline through dynamic kinetic resolution using ruthenium-catalyzed hydrogenation)

RN 133545-16-1 CAPLUS

CN Phosphine, 1,1'-[(1R)-6,6'-dimethoxy[1,1'-biphenyl]-2,2'-diyl]bis[1,1-diphenyl- (CA INDEX NAME)

RN 133545-17-2 CAPLUS

CN Phosphine, 1,1'-[(1S)-6,6'-dimethoxy[1,1'-biphenyl]-2,2'-diyl]bis[1,1-diphenyl- (CA INDEX NAME)

L3 ANSWER 74 OF 212 CAPLUS COPYRIGHT 2007 ACS on STN

ACCESSION NUMBER: 2004:704236 CAPLUS

DOCUMENT NUMBER: 142:210665

TITLE: New route to biaryl phosphanes with axial chirality as

ligands for enantioselective hydrogenations

AUTHOR(S): Driessen-Hoelscher, Birgit; Kralik, Joachim; Agel,

Friederike; Steffens, Christian; Hu, Chunhua

CORPORATE SOURCE: Institute of Technical Chemistry and Macromolecular

Chemistry, Faculty of Sciences, Technical Chemistry, RWTH Aachen and University of Paderborn, Paderborn,

33098, Germany

SOURCE: Advanced Synthesis & Catalysis (2004), 346(8), 979-982

CODEN: ASCAF7; ISSN: 1615-4150

PUBLISHER: Wiley-VCH Verlag GmbH & Co. KGaA

DOCUMENT TYPE: Journal LANGUAGE: English

OTHER SOURCE(S): CASREACT 142:210665

GΙ

AB The authors found a modular route for the synthesis of Cl-MeOBIPHEP ligands (I; R = Ph, p-FC6H4, xylyl, 2-furyl, 2,5-(MeO)2C6H3) via the corresponding biphenol that allows the authors to introduce several substituents without the necessity to sep. the enantiomers of each derivative These new diphosphines were used to preparation Ru(I)(O2CCF3)2 for use in the Ru-catalyzed enantioselective hydrogenation of di-Me itaconate with ee values up to 97%.

IT 185913-97-7P 403657-35-2P 403657-36-3P
403657-37-4P 838836-65-0P
RL: CAT (Catalyst use); SPN (Synthetic preparation); PREP (Preparation);
USES (Uses)

(preparation as hydrogenation catalyst for di-Me itaconate)

RN 185913-97-7 CAPLUS

CN Phosphine, [(1R)-5,5'-dichloro-6,6'-dimethoxy[1,1'-biphenyl]-2,2'-diyl]bis[diphenyl- (9CI) (CA INDEX NAME)

403657-36-3 CAPLUS RN

Phosphine, [(1R)-5,5'-dichloro-6,6'-dimethoxy[1,1'-biphenyl]-2,2'-CN diyl]bis[bis(4-fluorophenyl) - (9CI) (CA INDEX NAME)

403657-37-4 CAPLUS RN

Phosphine, [(1R)-5,5'-dichloro-6,6'-dimethoxy[1,1'-biphenyl]-2,2'-CN diyl]bis[bis(3,5-dimethylphenyl)- (9CI) (CA INDEX NAME)

RN 838836-65-0 CAPLUS
CN Phosphine, [(1R)-5,5'-dichloro-6,6'-dimethoxy[1,1'-biphenyl]-2,2'-diyl]bis[bis(2,5-dimethoxyphenyl)- (9CI) (CA INDEX NAME)

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L3 ANSWER 75 OF 212 CAPLUS COPYRIGHT 2007 ACS on STN

ACCESSION NUMBER: 2004:629985 CAPLUS

DOCUMENT NUMBER: 141:295691

TITLE: Enantioselective hydrogenation of α -aryloxy

 α, β -unsaturated acids. Asymmetric synthesis

of α -aryloxycarboxylic acids

AUTHOR(S): Maligres, Peter E.; Krska, Shane W.; Humphrey, Guy R. CORPORATE SOURCE:

Department of Process Research, Merck & Co., Inc.,

Rahway, NJ, 07065, USA

SOURCE: Organic Letters (2004), 6(18), 3147-3150

CODEN: ORLEF7; ISSN: 1523-7060

PUBLISHER: American Chemical Society

DOCUMENT TYPE: Journal LANGUAGE: English

OTHER SOURCE(S): CASREACT 141:295691

GI

AB A facile preparation of chiral α -aryloxy carboxylic acids, e.g., I, by asym. hydrogenation of the corresponding unsatd. acids has been discovered. A number of catalysts have been identified that give high product enantioselectivity, and the scope of the reaction has been examined with respect to substitution on the aromatic ring and olefin.

185913-97-7 IT

RL: CAT (Catalyst use); USES (Uses) (stereoselective preparation of α -aryloxy carboxylic acids via substitution of bromoalkenoates with phenols followed by hydrolysis and ruthenium-catalyzed asym. hydrogenation in the presence of chiral phosphine ligands)

185913-97-7 CAPLUS RN

CN Phosphine, [(1R)-5,5'-dichloro-6,6'-dimethoxy[1,1'-biphenyl]-2,2'diyl]bis[diphenyl- (9CI) (CA INDEX NAME)

L3 ANSWER 76 OF 212 CAPLUS COPYRIGHT 2007 ACS on STN

ACCESSION NUMBER: 2004:626153 CAPLUS

DOCUMENT NUMBER: 141:313978

TITLE: Novel silica gel supported chiral biaryl-diphosphine

ligands for enantioselective hydrogenation

AUTHOR(S): Steiner, Ivo; Aufdenblatten, Rhony; Togni, Antonio;

Blaser, Hans-Ulrich; Pugin, Benoit

CORPORATE SOURCE: Laboratory of Inorganic Chemistry, ETH Honggerberg,

Swiss Federal Institute of Technology, Zurich,

CH-8093, Switz.

SOURCE: Tetrahedron: Asymmetry (2004), 15(14), 2307-2311

CODEN: TASYE3; ISSN: 0957-4166

PUBLISHER: Elsevier B.V.

DOCUMENT TYPE: Journal LANGUAGE: English

OTHER SOURCE(S): CASREACT 141:313978

The synthesis of functionalized Biphemp and MeO-Biphep biaryl diphosphine ligands and their covalent attachment to silica gel are described. The catalytic performance of the immobilized ligands was tested in the asym. hydrogenation of Me acetamidocinnamate with Rh and of Me phenylglyoxylate with Ru and compared with that of the homogeneous analogs. With the exception of a Rh catalyzed hydrogenation, where an increase of ee from 29% for the unfunctionalized ligand, to 40% for the functionalized ligand and 45% for the immobilized ligand was observed, functionalization and immobilization did not significantly affect the catalytic properties. The best ees of 90% were obtained for the Ru catalyzed hydrogenation of Me phenylglyoxylate with the immobilized MeO-Biphep ligand and are comparable with those of the homogeneous catalyst. Recycling of the immobilized catalysts resulted in a significant drop in activity for the Rh catalysts, whereas the Ru catalysts were much more robust and could be used in >10 catalytic runs.

IT 133545-17-2

RL: CAT (Catalyst use); USES (Uses)

(preparation of silica gel supported chiral biaryl-diphosphine ligands for enantioselective hydrogenation)

RN 133545-17-2 CAPLUS

CN Phosphine, 1,1'-[(1S)-6,6'-dimethoxy[1,1'-biphenyl]-2,2'-diyl]bis[1,1-diphenyl- (CA INDEX NAME)

IT 151395-61-8

RL: RCT (Reactant); RACT (Reactant or reagent) (preparation of silica gel supported chiral biaryl-diphosphine ligands for enantioselective hydrogenation)

RN 151395-61-8 CAPLUS

CN [1,1'-Biphenyl]-2,2'-diol, 6,6'-bis(diphenylphosphino)-, (1R)- (CA INDEX NAME)

REFERENCE COUNT:

31 THERE ARE 31 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L3 ANSWER 77 OF 212 CAPLUS COPYRIGHT 2007 ACS on STN

ACCESSION NUMBER:

2004:626146 CAPLUS

DOCUMENT NUMBER:

141:313992

TITLE:

New developments in the synthesis of heterotopic

atropisomeric diphosphines via diastereoselective aryl

coupling reactions

AUTHOR(S):

Madec, Jonathan; Michaud, Guillaume; Genet,

Jean-Pierre; Marinetti, Angela

CORPORATE SOURCE:

Laboratoire de Synthese Selective Organique et

Produits Naturels, UMR 7573, ENSCP 11, Paris, 75231,

Fr.

SOURCE:

Tetrahedron: Asymmetry (2004), 15(14), 2253-2261

CODEN: TASYE3; ISSN: 0957-4166

PUBLISHER:

Elsevier B.V.

DOCUMENT TYPE:

Journal

LANGUAGE:

English

OTHER SOURCE(S):

CASREACT 141:313992

The new heterotopic atropisomeric diphosphine (R)-5,6-benzo-2,2'-bis(diphenylphosphino)-4',5',6'-trimethylbiphenyl has been prepared. The key step of this synthesis is a diastereoselective, intramol. aryl-aryl coupling reaction via oxidation of a suitable, chiral diarylcuprate. The catalytic properties of the diphosphine in ruthenium promoted hydrogenations of model substrates and in rhodium promoted 1,4-addns. of boronic acids to α,β -unsatd. ketones are fully comparable to those of reference ligands such as BINAP. This seems to indicate that C2-symmetry is not a structural prerequisite for atropisomeric chiral diphosphines to obtain high enantioselectivities in 1,4-addition reactions as well as in hydrogenation reactions.

IT 133545-16-1 133545-17-2

RL: CAT (Catalyst use); USES (Uses)

(preparation of heterotopic atropisomeric diphosphines as chiral ligands in rhodium-catalyzed coupling reactions and hydrogenations)

RN 133545-16-1 CAPLUS

CN Phosphine, 1,1'-[(1R)-6,6'-dimethoxy[1,1'-biphenyl]-2,2'-diyl]bis[1,1-diphenyl- (CA INDEX NAME)

RN 133545-17-2 CAPLUS
CN Phosphine, 1,1'-[(1S)-6,6'-dimethoxy[1,1'-biphenyl]-2,2'-diyl]bis[1,1-diphenyl- (CA INDEX NAME)

IT 767323-59-1P

RL: SPN (Synthetic preparation); PREP (Preparation) (preparation of heterotopic atropisomeric diphosphines as chiral ligands in rhodium-catalyzed coupling reactions and hydrogenations)

RN 767323-59-1 CAPLUS

CN Phosphine selenide, [(1S)-6,6'-dimethoxy[1,1'-biphenyl]-2,2'-diyl]bis[diphenyl- (9CI) (CA INDEX NAME)

REFERENCE COUNT:

26 THERE ARE 26 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L3 ANSWER 78 OF 212 CAPLUS COPYRIGHT 2007 ACS on STN

ACCESSION NUMBER: 2004:626137 CAPLUS

DOCUMENT NUMBER: 141:295641

TITLE: Asymmetric cyclocarbonylation of 1,6-enynes with

cobalt catalysts

AUTHOR(S): Schmid, Thomas M.; Consiglio, Giambattista

CORPORATE SOURCE: Eidgenossische Technische Hochschule, ETH-Honggerberg,

Institut fur Chemie und Bioingenieurwissenschaften,

Zurich, CH-8093, Switz.

SOURCE: Tetrahedron: Asymmetry (2004), 15(14), 2205-2208

CODEN: TASYE3; ISSN: 0957-4166

PUBLISHER: Elsevier B.V.

DOCUMENT TYPE: Journal LANGUAGE: English

OTHER SOURCE(S): CASREACT 141:295641

AB Octacarbonyldicobalt or Co(II) salts in the presence of

(R)-(6,6'-dimethoxybiphenyl-2,2'-diyl) bis (diphenylphosphine) were active and highly enantioselective catalyst for the cyclocarbonylation of enynes such as 4,4-bis (carboethoxy)hex-6-en-1-yne. The reactivity of both catalytic systems towards cyclocarbonylation increased when the CO pressure was increased. However, when a stoichiometric amount of ligand was used, with respect to the catalyst, the enantioselectivity decreased, but increased again as the ligand-to-Co molar ratio increased.

IT 133545-16-1, (R)-(6,6'-Dimethoxybiphenyl-2,2'-

diyl)bis(diphenylphosphine)

RL: CAT (Catalyst use); USES (Uses)

(stereoselective preparation of di-Et oxobicyclooctenedicarboxylate via cobalt catalyzed asym. Pauson-Khand cyclocarbonylation of di-Et allyl(propargyl)malonate)

RN 133545-16-1 CAPLUS

CN Phosphine, 1,1'-[(1R)-6,6'-dimethoxy[1,1'-biphenyl]-2,2'-diyl]bis[1,1-diphenyl- (CA INDEX NAME)

REFERENCE COUNT: 20 THERE ARE 20 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L3 ANSWER 79 OF 212 CAPLUS COPYRIGHT 2007 ACS on STN

ACCESSION NUMBER: 2004:617746 CAPLUS

DOCUMENT NUMBER: 141:313971

TITLE: A Palladium-Catalyzed Enantioselective Alkylative

Desymmetrization of meso-Succinic Anhydrides

AUTHOR(S): Bercot, Eric A.; Rovis, Tomislav

CORPORATE SOURCE: Department of Chemistry, Colorado State University,

Fort Collins, CO, 80523, USA

SOURCE: Journal of the American Chemical Society (2004),

126(33), 10248-10249

CODEN: JACSAT; ISSN: 0002-7863

PUBLISHER:

American Chemical Society

DOCUMENT TYPE:

Journal. English

LANGUAGE: OTHER SOURCE(S):

CASREACT 141:313971

AB Monoalkylation of cyclic anhydrides provides an opportunity to couple a carbon-carbon bond-forming event with the control of backbone stereochem. A palladium-JOSIPHOS catalyst system has been developed that desymmetrizes meso-succinic anhydrides using organozinc reagents as nucleophiles, and in many cases, this reaction proceeds at ambient temperature

IT 133545-17-2

RL: CAT (Catalyst use); USES (Uses)

(palladium-catalyzed enantioselective arylative desymmetrization of meso-succinic anhydrides)

RN 133545-17-2 CAPLUS

CN Phosphine, 1,1'-[(1S)-6,6'-dimethoxy[1,1'-biphenyl]-2,2'-diyl]bis[1,1-diphenyl- (CA INDEX NAME)

REFERENCE COUNT:

31 THERE ARE 31 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L3 ANSWER 80 OF 212 CAPLUS COPYRIGHT 2007 ACS on STN

ACCESSION NUMBER:

2004:613893 CAPLUS

DOCUMENT NUMBER:

142:176516

TITLE:

Synthesis of substituted mandelic acid derivatives via enantioselective hydrogenation: Homogeneous versus

heterogeneous catalysis

AUTHOR(S):

Cederbaum, Fredrik; Lamberth, Clemens; Malan, Christophe; Naud, Fred; Spindler, Felix; Studer,

Martin; Blaser, Hans-Ulrich

CORPORATE SOURCE:

Research Department, Syngenta Crop Protection AG,

Basel, 4002, Switz.

SOURCE:

Advanced Synthesis & Catalysis (2004), 346(7), 842-848

CODEN: ASCAF7; ISSN: 1615-4150

PUBLISHER:

Wiley-VCH Verlag GmbH & Co. KGaA

DOCUMENT TYPE:

Journal

LANGUAGE:

English

OTHER SOURCE(S):

CASREACT 142:176516

AB An extensive screening of both homogeneous and heterogeneous catalysts was carried out for the enantioselective hydrogenation of p-chlorophenylglyoxylic acid derivs. For p-chlorophenylglyoxylic amides only homogeneous Rh-diphosphine complexes gave satisfactory results, ees up to 87% were observed for the cy-oxo-pronop ligand. For Me p-chlorophenylglyoxylate both a homogeneous as well as a heterogeneous

catalyst performed with ees >90%. A Pt catalyst modified with cinchona derivs. achieved 93% ee for the (R)- and 87% ee for the (S)-Me p-chloromandelate. A Ru-MeObiphep catalyst also reached 93% ee with TONs up to 4000 and TOFs up to 210 h-1. For all catalytic systems the effects of the metal, the nature of the chiral auxiliary and the solvent as well as of the reaction conditions were investigated. The homogeneous process was scaled up to the kg scale and the enantiomeric purity of the product was enhanced to >99% ee by two recrystns. of the free p-chlorophenylmandelic acid.

IT 133545-25-2 150971-43-0 150971-55-4

RL: CAT (Catalyst use); USES (Uses)

(homogeneous vs. heterogeneous catalysis in the synthesis of substituted mandelic acid derivs. via enantioselective hydrogenation)

RN 133545-25-2 CAPLUS

CN Phosphine, [(1S)-6,6'-dimethoxy[1,1'-biphenyl]-2,2'-diyl]bis[bis(4-methylphenyl)- (9CI) (CA INDEX NAME)

PAGE 1-A

PAGE 2-A

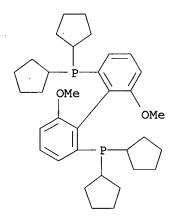
| Me

RN 150971-43-0 CAPLUS

CN Phosphine, [(1S)-6,6'-dimethoxy[1,1'-biphenyl]-2,2'-diyl]bis[bis(1-methylethyl)- (9CI) (CA INDEX NAME)

RN 150971-55-4 CAPLUS

CN Phosphine, [(1S)-6,6'-dimethoxy[1,1'-biphenyl]-2,2'-diyl]bis[dicyclopentyl-(9CI) (CA INDEX NAME)



REFERENCE COUNT: 20 THERE ARE 20 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L3 ANSWER 81 OF 212 CAPLUS COPYRIGHT 2007 ACS on STN

ACCESSION NUMBER:
DOCUMENT NUMBER:

2004:587635 CAPLUS 142:155762

TITLE:

Platinum-catalyzed intramolecular alkylation of

indoles with unactivated olefins. [Erratum to document

cited in CA140:375039]

AUTHOR(S):

Liu, Cong; Han, Xiaoqing; Wang, Xiang; Widenhoefer,

Ross A.

CORPORATE SOURCE:

P. M. Gross Chemical Laboratory, Duke University,

Durham, NC, 27708-0346, USA

SOURCE:

Journal of the American Chemical Society (2004),

126(33), 10493

CODEN: JACSAT; ISSN: 0002-7863

PUBLISHER:

American Chemical Society

DOCUMENT TYPE:

Journal

LANGUAGE:

English

On page 3701, the enantiomeric purity of compound 8 formed in the cyclization of compound 7 catalyzed by a 1:1 mixture of (R)-6 and AgOTf was reported incorrectly as 69% ee. The correct value is 87% ee. Reference 9 should include the following citation: "Youn, S. W.; Pastine, S. J.; Sames, D. Organic Lett. 2004, 6, 581". On page S28, Supporting Information, the enantiomeric purity of compound 8 was reported incorrectly in entries

2-5. The correct values are 21, 41, 63, and 87% ee, resp.

IT 256390-45-1

RL: CAT (Catalyst use); USES (Uses)

(platinum-catalyzed intramol. alkylation of indoles with unactivated olefins (Erratum)) RN 256390-45-1 CAPLUS

CN Phosphine, [(1R)-6,6'-dimethoxy[1,1'-biphenyl]-2,2'-diyl]bis[bis[3,5-bis(1-methylethyl)phenyl]- (9CI) (CA INDEX NAME)

IT 352655-61-9

RL: CAT (Catalyst use); RCT (Reactant); RACT (Reactant or reagent); USES (Uses)

(platinum-catalyzed intramol. alkylation of indoles with unactivated olefins (Erratum))

RN 352655-61-9 CAPLUS

CN Phosphine, [(1R)-6,6'-dimethoxy[1,1'-biphenyl]-2,2'-diyl]bis[bis[3,5-bis(1,1-dimethylethyl)-4-methoxyphenyl]- (9CI) (CA INDEX NAME)

L3 ANSWER 82 OF 212 CAPLUS COPYRIGHT 2007 ACS on STN ACCESSION NUMBER: 2004:570037 CAPLUS

DOCUMENT NUMBER: 141:123759

TITLE: Catalytic asymmetric reductive amination of ketones

via transition metal complex catalysts with chiral

phosphine ligands

INVENTOR(S): Zhang, Xumu

PATENT ASSIGNEE(S): Penn State Research Foundation, USA

SOURCE: PCT Int. Appl., 22 pp.

CODEN: PIXXD2

DOCUMENT TYPE: Patent LANGUAGE: English

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

	PATENT NO.					KIND DATE				ION 1	NO.	DATE				
WO 2004	WO 2004058982 WO 2004058982				A2 20040715 A3 20041229			WO 2	003-	US34	955	20031105				
W:	AE, AG CO, CR GM, HR LS, LT PG, PH TR, TT BW, GH BY, KG	, AL, CU, HU, LU, TZ, GM,	AM, CZ, ID, LV, PT, UA, KE,	AT, DE, IL, MA, RO, UG, LS,	AU, DK, IN, MD, RU, US, MW,	AZ, DM, IS, MG, SC, UZ, MZ,	BA, DZ, JP, MK, SD, VC, SD,	EC, KE, MN, SE, VN, SL,	EE, KG, MW, SG, YU, SZ,	ES, KP, MX, SK, ZA, TZ,	FI, KR, MZ, SL, ZM, UG,	GB, KZ, NI, SY, ZW ZM,	GD, LC, NO, TJ,	GE, LK, NZ, TM,	GH, LR, OM, TN,	
AU 2003 US 2004 PRIORITY APP OTHER SOURCE	GB, CF, A1 A1	GR, CG,	HU, CI, 2004 2004	IE, CM, 0722 0729	IT, GA,	LU, GN, AU 2 US 2 US 2	MC, GQ, 003-2	NL, GW, 2942 7010 4246	PT, ML, 43 81 63P	RO, MR,	SE, NE, 2 2 P 2	SI, SN, 0031	SK, TD, 105 105	TG		

* STRUCTURE DIAGRAM TOO LARGE FOR DISPLAY - AVAILABLE VIA OFFLINE PRINT *

- AB Processes for the preparation of compds., e. g. I, having a chiral carbon substituted with an amine are disclosed. The processes include admixing a ketone, e. g. II, with an amine, e. g. III in the presence of a catalyst having a chiral phosphine ligand, e. g. IV, and an acid. The admixt. can also contain a reducing additive. The admixt. is then exposed to hydrogen to directly and asym. aminate the ketone.
- IT 133545-17-2
 - RL: CAT (Catalyst use); USES (Uses)

(catalytic asym. reductive amination of ketones via transition metal complex catalysts with chiral phosphine ligands)

RN 133545-17-2 CAPLUS

CN Phosphine, 1,1'-[(1S)-6,6'-dimethoxy[1,1'-biphenyl]-2,2'-diyl]bis[1,1-diphenyl- (CA INDEX NAME)



L3 ANSWER 83 OF 212 CAPLUS COPYRIGHT 2007 ACS on STN

ACCESSION NUMBER: 2004:553530 CAPLUS

DOCUMENT NUMBER: 141:243792

TITLE: Following an ISES Lead: The First Examples of

Asymmetric Ni(0)-Mediated Allylic Amination

AUTHOR(S): Berkowitz, David B.; Maiti, Gourhari

CORPORATE SOURCE: Department of Chemistry, University of Nebraska,

Lincoln, NE, 68588-0304, USA

SOURCE: Organic Letters (2004), 6(16), 2661-2664

CODEN: ORLEF7; ISSN: 1523-7060

PUBLISHER: American Chemical Society

DOCUMENT TYPE: Journal LANGUAGE: English

OTHER SOURCE(S): CASREACT 141:243792

GΙ

In order to develop an in-situ enzyme screening (ISES) method, the authors chose an intramol. allylic amination as a model reaction. For example, protected butene diol derivative I (Pmp = C6H4OMe-4) underwent allylic amination to afford oxazolidinone II (protected vinylglycinol derivative) in presence of Ni(cod)2 catalyst with chiral bidentate phosphines as ligands. The chirality of the bidentate phosphines determined the stereochem. outcome of II. The best case was seen with (R)-MeO-BIPHEP as the ligand, where (S)-II was obtained in 75% enantiomeric excess from I. (S)-II was converted in three steps to L-vinylglycinol, III (R = CH2OH), which was converted in two steps to L-vinylglycine, III (R = CO2H).

IT 133545-16-1, (R)-MeO-BIPHEP 256390-45-1,

(R)-3,'5'-i-Pr2-MeO-BIPHEP 352655-61-9, (R)-4'-OMe-3',5'-t-Bu2-

MeO-BIPHEP 394248-45-4, (R)-3',5'-Me2-MeO-BIPHEP

RL: CAT (Catalyst use); USES (Uses)

(ligand; asym. allylic amination of butenediol derivative using nickel catalyst with chiral bidentate phosphine ligands as a model reaction for in-situ enzyme screening)

RN 133545-16-1 CAPLUS

CN Phosphine, 1,1'-[(1R)-6,6'-dimethoxy[1,1'-biphenyl]-2,2'-diyl]bis[1,1-

RN 256390-45-1 CAPLUS

CN Phosphine, [(1R)-6,6'-dimethoxy[1,1'-biphenyl]-2,2'-diyl]bis[bis[3,5-bis(1-methylethyl)phenyl]- (9CI) (CA INDEX NAME)

RN 352655-61-9 CAPLUS

CN Phosphine, [(1R)-6,6'-dimethoxy[1,1'-biphenyl]-2,2'-diyl]bis[bis[3,5-bis(1,1-dimethylethyl)-4-methoxyphenyl]- (9CI) (CA INDEX NAME)

RN 394248-45-4 CAPLUS

CN Phosphine, [(1R)-6,6'-dimethoxy[1,1'-biphenyl]-2,2'-diyl]bis[bis(3,5-dimethylphenyl)- (9CI) (CA INDEX NAME)

IT 133545-17-2

RL: CAT (Catalyst use); USES (Uses)
(ligand; preparation of vinylglycinol derivs. from asym. allylic amination of butenediol derivative with nickel catalyst and chiral bidentate phosphine ligands)

RN 133545-17-2 CAPLUS

CN Phosphine, 1,1'-[(1S)-6,6'-dimethoxy[1,1'-biphenyl]-2,2'-diyl]bis[1,1-diphenyl- (CA INDEX NAME)

REFERENCE COUNT:

58 THERE ARE 58 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L3 ANSWER 84 OF 212 CAPLUS COPYRIGHT 2007 ACS on STN

ACCESSION NUMBER:

2004:498533 CAPLUS

DOCUMENT NUMBER:

141:173999

TITLE:

Total synthesis of sulfobacin A through dynamic

kinetic resolution of a racemic β -keto- α -

amino ester hydrochloride

AUTHOR(S):

Labeeuw, Olivier; Phansavath, Phannarath; Genet,

Jean-Pierre

CORPORATE SOURCE:

UMR CNRS 7573, Laboratoire de Synthese Selective Organique et Produits Naturels, Ecole Nationale Superieure de Chimie de Paris, Paris, 75231, Fr. Tetrahedron: Asymmetry (2004), 15(12), 1899-1908

SOURCE:

CODEN: TASYE3; ISSN: 0957-4166

PUBLISHER: Elsevier Science B.V.

DOCUMENT TYPE:

Journal

LANGUAGE:

English

OTHER SOURCE(S):

CASREACT 141:173999

Ι

GT

AB A total synthesis of sulfobacin A (I), a von Willebrand factor receptor antagonist. (no data), is described. Our synthetic approach relies uniquely on catalytic asym. reactions for the creation of the three stereogenic centers without using chiral building blocks. The key steps of this short route to sulfobacin A involve ruthenium-mediated asym. hydrogenation reactions of a β -keto ester and a racemic β -keto- α -amino ester hydrochloride to afford, resp., the corresponding enantiomerically pure β -hydroxy ester and the enantioenriched anti β -hydroxy α -amino ester hydrochloride through dynamic kinetic resolution

IT 133545-16-1

RL: CAT (Catalyst use); USES (Uses)

(total synthesis of sulfobacin A through dynamic kinetic resolution of a racemic β -keto- α -amino ester hydrochloride)

RN 133545-16-1 CAPLUS

CN Phosphine, 1,1'-[(1R)-6,6'-dimethoxy[1,1'-biphenyl]-2,2'-diyl]bis[1,1-diphenyl- (CA INDEX NAME)

OMe R PPh2

Ph₂P R MeO

REFERENCE COUNT:

40 THERE ARE 40 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L3 ANSWER 85 OF 212 CAPLUS COPYRIGHT 2007 ACS on STN

ACCESSION NUMBER:

2004:491164 CAPLUS

DOCUMENT NUMBER:

142:179196

TITLE:

Industrial application of chiral biphosphines

Gerlach, Arne; Scholz, Ulrich

AUTHOR(S): CORPORATE SOURCE:

Bayer Chemicals, Leverkusen, D-51368, Germany

SOURCE:

Speciality Chemicals Magazine (2004), 24(4), 37-38 CODEN: SPCHEY; ISSN: 0262-2262

DMG World Media (uk) Ltd.

PUBLISHER: DOCUMENT TYPE:

Journal

LANGUAGE:

English

OTHER SOURCE(S):

CASREACT 142:179196

Bayer Chems.' ClMeOBIPHEP ligand ((S)-3,3'-dichloro-6,6'-bis(diphenylphosphino)-2,2'-dimethoxy-1,1'-biphenyl) is a popular member of the BINAP family that exhibits strong asym. induction in many applications. Since its early developments in Bayer's central research department, numerous applications of the ClMeOBIPHEP ligand class have been identified in asym. hydrogenation. Among the most interesting substrates from an industrial point of view are those which contain prochiral C:O or C:C double bonds. With ClMeOBIPHEP-Ru catalysts, a simple crystallization protocol that allowed further enrichment to up to 99% ee for the ammonium salt was developed; thus (E)-CF3CMe:CHCO2H was hydrogenated to (R)-CF3CHMeCH2CO2H, which was neutralized by tBuNH2 to (R)-tBuNH3O2CCH2CHMeCF3 for purification by recrystn. In another application, acetylacetone was hydrogenated to (S,S)-2,4-pentanediol (>99 %ee and >98 %de) in a simple procedure even at the kg scale.

IT 185913-98-8D, ruthenium complexes

RL: CAT (Catalyst use); USES (Uses)

(industrial catalytic applications of chiral biphosphines in asym. hydrogenation)

RN 185913-98-8 CAPLUS

CN Phosphine, [(1S)-5,5'-dichloro-6,6'-dimethoxy[1,1'-biphenyl]-2,2'-diyl]bis[diphenyl- (9CI) (CA INDEX NAME)

REFERENCE COUNT: 10 THERE ARE 10 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L3 ANSWER 86 OF 212 CAPLUS COPYRIGHT 2007 ACS on STN

ACCESSION NUMBER: 2004:484214 CAPLUS

DOCUMENT NUMBER: 141:173996

TITLE: An efficient ruthenium-catalyzed formal synthesis of

(-)-isoavenaciolide

AUTHOR(S): Labeeuw, Olivier; Blanc, Delphine; Phansavath,

Phannarath; Ratovelomanana-Vidal, Virginie; Genet,

Jean-Pierre

CORPORATE SOURCE: Laboratoire de Synthese Selective Organique et

Produits Naturels, UMR 7573, Ecole Nationale

Superieure de Chimie de Paris, Paris, 75231/05, Fr.

SOURCE: European Journal of Organic Chemistry (2004), (11),

2352-2358

CODEN: EJOCFK; ISSN: 1434-193X

PUBLISHER: Wiley-VCH Verlag GmbH & Co. KGaA

DOCUMENT TYPE: Journal LANGUAGE: English

OTHER SOURCE(S): CASREACT 141:173996

GΙ

PhCH₂O

O

O

PhCH₂O

$$CH_2 \leftarrow CH_2$$

Me

 $CH_2 \leftarrow CH_2$
 $CH_2 \leftarrow CH_2$

PhCH20
$$\rightarrow$$
 CH2 $\left\{\text{CH2}\right\}$ Me \rightarrow PhCH20 \rightarrow OEt III \rightarrow Me \rightarrow Me \rightarrow IV

AB A formal synthesis of (-)-isoavenaciolide by two different routes is reported. The first approach, leading to a key precursor I of (-)-isoavenaciolide, features the stereoselective construction of the three contiguous stereogenic centers by Evans diastereoselective reduction

(d.e. = 80%) of β -hydroxy ketone II. In the more efficient second approach, the nine-step sequence leading to the key precursor I involves sequential ruthenium-catalyzed hydrogenation reactions of β -keto ester III and β -hydroxy ketone IV to form the two hydroxyl groups with an excellent control of the anti stereochem. (d.e. = 99%).

133577-92-1, 6,6'-Dimethoxybiphenyl-2,2'-ΙT

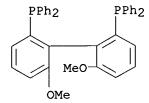
diyl)bis(diphenylphosphine

RL: CAT (Catalyst use); USES (Uses)

(efficient ruthenium-catalyzed formal synthesis of (-)-isoavenaciolide)

133577-92-1 CAPLUS RN

Phosphine, (6,6'-dimethoxy[1,1'-biphenyl]-2,2'-diyl)bis[diphenyl- (9CI) CN (CA INDEX NAME)



REFERENCE COUNT:

39 THERE ARE 39 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

ANSWER 87 OF 212 CAPLUS COPYRIGHT 2007 ACS on STN

ACCESSION NUMBER: DOCUMENT NUMBER:

2004:356395 CAPLUS 141:88901

TITLE:

Remarkably diastereoselective synthesis of a chiral

biphenyl diphosphine ligand and its application in

asymmetric hydrogenation

AUTHOR(S):

Qiu, Liqin; Wu, Jing; Chan, Shusun; Au-Yeung, Terry T.-L.; Ji, Jian-Xin; Guo, Rongwei; Pai, Cheng-Chao; Zhou, Zhongyuan; Li, Xingshu; Fan, Qing-Hua; Chan, Albert S. C.

CORPORATE SOURCE:

Open Laboratory of Chirotechnology of the Institute of Molecular Technology for Drug Discovery and Synthesis and Department of Applied Biology and Chemical Technology, The Hong Kong Polytechnic University,

Kowloon, Hong Kong

SOURCE:

Proceedings of the National Academy of Sciences of the United States of America (2004), 101(16), 5815-5820

CODEN: PNASA6; ISSN: 0027-8424

PUBLISHER:

National Academy of Sciences

DOCUMENT TYPE:

Journal

LANGUAGE:

English

OTHER SOURCE(S):

CASREACT 141:88901

Essentially complete atropdiastereoselectivity was realized in the preparation of biaryl diphosphine dioxide by asym. intramol. Ullmann coupling and oxidative coupling with central-to-axial chirality transfer. A bridged C2-sym. biphenylphosphine ligand possessing addnl. chiral centers on the linking unit of the biphenyl groups was synthesized. No resolution step was required for the preparation of the enantiomerically pure chiral ligand. These findings offer a general and practical tool for the development of previously uninvestigated atropdiastereomeric biaryl phosphine ligands. The diphosphine ligand was highly effective in the asym. hydrogenation of α - and β -keto esters, 2-(6'-methoxy-2'-naphthyl)propenoic acid, β-(acylamino) acrylates, and enol acetates.

133545-17-2D, ruthenium chloride and p-cymene complexes IT

RL: CAT (Catalyst use); USES (Uses)

(stereoselective synthesis of a chiral biphenyl diphosphine ligand for

asym. hydrogenation)

RN 133545-17-2 CAPLUS

CN Phosphine, 1,1'-[(1S)-6,6'-dimethoxy'[1,1'-biphenyl]-2,2'-diyl]bis[1,1-diphenyl- (CA INDEX NAME)

OMe R PPh2

Ph₂P R MeO

REFERENCE COUNT:

54 THERE ARE 54 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L3 ANSWER 88 OF 212 CAPLUS COPYRIGHT 2007 ACS on STN

ACCESSION NUMBER:

2004:356392 CAPLUS

DOCUMENT NUMBER:

141:71622

TITLE:

Chiral biphenyl diphosphines for asymmetric catalysis:

stereoelectronic design and industrial perspectives

AUTHOR(S):

Jeulin, Severine; De Paule, Sebastien Duprat;

Ratovelomanana-Vidal, Virginie; Genet, Jean-Pierre;

Champion, Nicolas; Dellis, Philippe

CORPORATE SOURCE:

Laboratoire de Synthese Selective Organique et Produits Naturels, Ecole Nationale Superieure de

Chimie de Paris, Paris, 75231, Fr.

SOURCE:

Proceedings of the National Academy of Sciences of the

ΙI

United States of America (2004), 101(16), 5799-5804

CODEN: PNASA6; ISSN: 0027-8424

PUBLISHER:

National Academy of Sciences

DOCUMENT TYPE:

Journal

LANGUAGE:

English

OTHER SOURCE(S):

CASREACT 141:71622

GΙ

Ι

AB Both enantiomers of the chiral diphosphines I (SYNPHOS) and II (DIFLUORPHOS) are prepared on multigram scales; the electronic and steric characteristics of I and II and of rhodium complexes derived from them are determined, compared with previous diphosphine catalysts, and correlated with

their activities and enantioselectivities in the hydrogenation of ketones and olefins. I and II are prepared in five steps from 6-bromo-2,3-dihydro-1,4-benzodioxane and 5-bromo-2,2-difluorobenzodioxole, resp.; lithium-metal exchange and addition to a phosphoryl or phosphinyl chloride followed by oxidation to yield phosphine oxides, regioselective lithiation and iodination, Ullman coupling of the aryl iodides, resolution (either by acid-base resolution with di-O-benzoyl-tartaric acid or by chiral HPLC), and reduction of the phosphine oxides yields I and II in 38% and 33% overall yield, resp. The bite angles of I and II are compared to those of other common diphosphine ligands such as BINAP and MeO-BIPHEP. The structure of diastereomeric chlorohydridoruthenium complexes of (S)-II with Me acetoacetate is determined The C-O stretching frequencies of chloro(carbonyl)rhodium diphosphine complexes containing I, II, BINAP, and MeO-BIPHEP are determined as a measure of the electronic demands of the diphosphine ligands. β -Keto ester, α -keto ester, 1,3-diketone, ketone, and olefin substrates are hydrogenated in the presence of nonracemic I, II, BINAP, and MeO-BIPHEP and bis(η 3-methally1)(η 4-1,5-cyclooctadienyl)ruthenium; the enantioselectivities are correlated with the steric and electronic properties of the ligands. The stereoelectronic features of the ligand and the substrate deeply influence the enantioselectivities obtained in asym. hydrogenation; whereas the steric and electronic factors for I (as in other diphosphines) correlate well, the bite angle of II does not correlate to its electronic effects in asym. hydrogenation reactions, leading to complementary hydrogenation selectivities for ligands I and II.

IT 133577-92-1, (±)-MeO-BIPHEP

RL: PRP (Properties)

(calculated bite angles as a measure of ligand steric effects and correlations between steric and electronic effects and enantioselectivities in ruthenium diphosphine complex-catalyzed asym. hydrogenation reactions)

RN 133577-92-1 CAPLUS

CN Phosphine, (6,6'-dimethoxy[1,1'-biphenyl]-2,2'-diyl)bis[diphenyl- (9CI) (CA INDEX NAME)

IT 133545-16-1, (R)-MeO-BIPHEP 133545-17-2, (S)-MeO-BIPHEP RL: CAT (Catalyst use); USES (Uses)

(preparation of nonracemic biaryl diphosphines as ligands for ruthenium-catalyzed asym. hydrogenation reactions, their steric and electronic properties, and comparisons with the selectivities of other biaryl diphosphine ligands)

RN 133545-16-1 CAPLUS

CN Phosphine, 1,1'-[(1R)-6,6'-dimethoxy[1,1'-biphenyl]-2,2'-diyl]bis[1,1-diphenyl- (CA INDEX NAME)

RN 133545-17-2 CAPLUS

CN Phosphine, 1,1'-[(1S)-6,6'-dimethoxy[1,1'-biphenyl]-2,2'-diyl]bis[1,1-diphenyl- (CA INDEX NAME)

REFERENCE COUNT: 42

THERE ARE 42 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L3 ANSWER 89 OF 212 CAPLUS COPYRIGHT 2007 ACS on STN

ACCESSION NUMBER:

2004:308392 CAPLUS

DOCUMENT NUMBER:

140:321522

TITLE:

Isomerization of chiral homogeneous

o,o'-dihydroxybiphenyl derivatives

INVENTOR(S):

Arlt, Dieter

PATENT ASSIGNEE(S):

Germany

SOURCE:

PCT Int. Appl., 26 pp.

CODEN: PIXXD2

DOCUMENT TYPE:

Patent

LANGUAGE:

German

FAMILY ACC. NUM. COUNT:

PATENT INFORMATION:

PATENT NO.						KIN	D	DATE			APPLICATION NO.						DATE			
						_														
WO 2004031110					A2 20040415			1	WO 2	003-	20030927									
WO 2004031110					А3		20040610													
		W:	ΑE,	AG,	AL,	AM,	AT,	ΑU,	ΑZ,	BA,	BB,	BG,	BR,	BY,	ΒZ,	CA,	CH,	CN,		
			co,	CR,	CU,	CZ,	DE,	DK,	DM,	DZ,	EC,	EE,	ES,	FI,	GB,	GD,	GE,	GH,		
			GM,	HR,	HU,	ID,	ΙĿ,	IN,	IS,	JP,	ΚE,	KG,	ΚP,	KR,	ΚZ,	LC,	LK,	LR,		
			LS.	LT.	LU,	LV,	MA.	MD.	MG,	MK,	MN,	MW,	MX,	MZ,	NO,	NZ.	OM,	PH,		

PL, PT, RO, RU, SD, SE, SG, SK, SL, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZM, ZW RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG 20040422 DE 2003-10324878 20030602 DE 10324878 Α1 20030927 20040423 AU 2003-273926 AU 2003273926 A1 DE 2002-10246137 20021001 PRIORITY APPLN. INFO.: DE 2003-10324878 Α 20030602 WO 2003-EP10764 W 20030927 OTHER SOURCE(S): CASREACT 140:321522; MARPAT 140:321522 Chiral homogeneous o,o'-dihydroxybiphenyl derivs., which either act as bisphosphine ligands of enantioselective transition metal complex catalysts (no data), or are used as intermediate products for producing ligands of this type, can be isomerized by thermal treatment, optionally in the presence of substances with an alkaline action, to produce a mixture of both enantiomers. The inventive method permits the targeted production of a ligand for enantioselective transition metal complex catalysts in (R)- or (S) - form, enabling the undesired enantiomer to be used. Thus, reaction of (R)-(6,6'-dihydroxybiphenyl-2,2'-diyl)bis(diphenylphosphine) with BuLi in ethylene glycol/hexane followed by heating the solution at 160° for 24h and HCl hydrolysis gave a mixture of (R)- and (S)-(6,6'dihydroxybiphenyl-2,2'-diyl)bis(diphenylphosphine). 151395-61-8 185913-98-8 IT RL: RCT (Reactant); RACT (Reactant or reagent) (isomerization of chiral homogeneous dihydroxybiphenyl phosphine derivs.) 151395-61-8 CAPLUS RN [1,1'-Biphenyl]-2,2'-diol, 6,6'-bis(diphenylphosphino)-, (1R)- (CA INDEX CN NAME)

RN 185913-98-8 CAPLUS
CN Phosphine, [(1S)-5,5'-dichloro-6,6'-dimethoxy[1,1'-biphenyl]-2,2'-diyl]bis[diphenyl- (9CI) (CA INDEX NAME)

IT 151395-62-9P 185913-95-5P 524711-75-9P
679422-50-5P 679422-51-6P 691363-03-8P
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT

RN 185913-95-5 CAPLUS
CN Phosphine oxide, [(1S)-5,5'-dichloro-6,6'-dimethoxy[1,1'-biphenyl]-2,2'-diyl]bis[diphenyl- (9CI) (CA INDEX NAME)

RN 524711-75-9 CAPLUS CN [1,1'-Biphenyl]-2,2'-diol, 6,6'-bis(diphenylphosphinyl)-, (1R)- (9CI) (CA INDEX NAME)

RN 679422-50-5 CAPLUS CN [1,1'-Biphenyl]-2,2'-diol, 6,6'-bis(diphenylphosphinyl)-, (1S)- (9CI) (CA INDEX NAME)

RN 679422-51-6 CAPLUS CN [1,1'-Biphenyl]-2,2'-diol, 3,3'-dichloro-6,6'-bis(diphenylphosphino)-, (1S)- (9CI) (CA INDEX NAME)

RN 691363-03-8 CAPLUS CN [1,1'-Biphenyl]-2,2'-diol, 3,3'-dichloro-6,6'-bis(diphenylphosphinyl)-, (1S)- (9CI) (CA INDEX NAME)

CN Phosphine oxide, (6,6'-dimethoxy[1,1'-biphenyl]-2,2'-diyl)bis[diphenyl-, (1R)- (9CI) (CA INDEX NAME)

RN 133577-84-1 CAPLUS
CN Phosphine oxide, [(1S)-6,6'-dimethoxy[1,1'-biphenyl]-2,2'-diyl]bis[diphenyl- (9CI) (CA INDEX NAME)

RN 185913-96-6 CAPLUS
CN Phosphine oxide, [(1R)-5,5'-dichloro-6,6'-dimethoxy[1,1'-biphenyl]-2,2'-diyl]bis[diphenyl- (9CI) (CA INDEX NAME)

RN 679002-66-5 CAPLUS
CN [1,1'-Biphenyl]-2,2',3,3'-tetrol, 6,6'-bis(diphenylphosphinyl)- (9CI) (CA INDEX NAME)

RN 679002-67-6 CAPLUS CN [1,1'-Biphenyl]-2,2',3,3'-tetrol, 6,6'-bis(diphenylphosphino)- (9CI) (CA INDEX NAME)

RN 679002-68-7 CAPLUS
CN [1,1'-Biphenyl]-2,2',3,3'-tetrol, 6,6'-bis[bis(3,5-dimethylphenyl)phosphinyl]- (9CI) (CA INDEX NAME)

RN 679002-69-8 CAPLUS
CN [1,1'-Biphenyl]-2,2',3,3'-tetrol, 6,6'-bis[bis(3,5-dimethylphenyl)phosphino]- (9CI) (CA INDEX NAME)

PAGE 2-A

RN 688359-26-4 CAPLUS

CN [1,1'-Biphenyl]-2,2'-diol, 3,3'-dichloro-6,6'-bis(diphenylphosphinyl)-(9CI) (CA INDEX NAME)

RN 691363-02-7 CAPLUS

CN [1,1'-Biphenyl]-2,2'-diol, 3,3'-dichloro-6,6'-bis(diphenylphosphino)-(9CI) (CA INDEX NAME)

RN 691363-04-9 CAPLUS

CN [1,1'-Biphenyl]-2,2'-diol, 3,3'-dichloro-6,6'-bis(diphenylphosphinyl)-, (1R)- (9CI) (CA INDEX NAME)

RN 691363-06-1 CAPLUS

CN [1,1'-Biphenyl]-2,2'-diol, 3,3'-dichloro-6,6'-bis(diphenylphosphino)-, (1R)- (9CI) (CA INDEX NAME)

L3 ANSWER 90 OF 212 CAPLUS COPYRIGHT 2007 ACS on STN

ACCESSION NUMBER:

2004:304108 CAPLUS

DOCUMENT NUMBER:

141:89150

TITLE:

Synthesis, resolution and applications of

3,3'-bis(RO)-MeO-BIPHEP derivatives

AUTHOR(S):

Gorobets, Evgueni; Sun, Guang-Ri; Wheatley, Bronwen M.

M.; Parvez, Masood; Keay, Brian A.

CORPORATE SOURCE:

Department of Chemistry, University of Calgary,

Calgary, Alta, T2N 1N4, Can.

SOURCE:

Tetrahedron Letters (2004), 45(18), 3597-3601

CODEN: TELEAY; ISSN: 0040-4039

PUBLISHER: Elsevier Science B.V.

DOCUMENT TYPE: Journal LANGUAGE: English

OTHER SOURCE(S): CASREACT 141:89150

Optically pure 3,3'-bis(RO)-MeO-BIPHEP derivs. were prepared and used in Pd catalyzed asym. transformations. The phosphine oxide of BIPHEP derivative (±)-5 was prepared in four steps from p-methoxyphenol and resolved using the novel resolving reagent chloro(l-menthoxy)dimethylsilane. Subsequent conversions provide catalysts 8 and 9. Ligands 6, 7 and 10 were prepared in six steps from p-methoxyphenol and the phosphine oxides of 6 and 7, and 10 are resolved using di-p-toluoyl- and dibenzoyl-l-tartaric acid, resp. (R)-3,3'-Bispivalate 8 is superior to the other catalysts in asym. Heck reaction with 2,3-dihydrofuran while (R)-(+)-bis(tolyloxy) 10 and (+)-(R)-sugar derivative 9 are better in the Pd-catalyzed polyene cyclization; however, the absolute sense of chirality in the product from the polyene cyclization was reversed to that obtained when (R)-(+)-BINAP and (R)-(+)-MeO-BIPHEP were used.

IT 133545-16-1

RL: CAT (Catalyst use); USES (Uses)
(Pd-catalyzed asym. Heck arylation of dihydrofuran using chiral

dimethoxybiphenyldiylbisphosphine BIPHEP ligands)

RN 133545-16-1 CAPLUS

CN Phosphine, 1,1'-[(1R)-6,6'-dimethoxy[1,1'-biphenyl]-2,2'-diyl]bis[1,1-diphenyl- (CA INDEX NAME)

REFERENCE COUNT: 41 THERE ARE 41 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L3 ANSWER 91 OF 212 CAPLUS COPYRIGHT 2007 ACS on STN

ACCESSION NUMBER:

2004:304084 CAPLUS

DOCUMENT NUMBER:

141:38723

TITLE:

3,5-Dialkyl Effect on Enantioselectivity in Pd

Chemistry: Applications Involving Both Bidentate and

Monodentate Auxiliaries

AUTHOR(S):

Dotta, Pascal; Kumar, P. G. Anil; Pregosin, Paul S.;

Albinati, Alberto; Rizzato, Silvia

CORPORATE SOURCE:

Laboratory of Inorganic Chemistry, ETHZ, Zurich, 8093,

Switz.

SOURCE:

Organometallics (2004), 23(10), 2295-2304

CODEN: ORGND7; ISSN: 0276-7333

PUBLISHER:

American Chemical Society

DOCUMENT TYPE:

Journal English

LANGUAGE:

CASREACT 141:38723

OTHER SOURCE(S):

The structural effect of phosphine 3,5-dialkylphenyl groups on

enantioselectivity of palladium-catalyzed reactions is demonstrated for a ring-opening transmetalation, Heck arylation, allylic alkylation and hydrosilylation reactions. The presence of tBu groups in 3,5-positions of Ph ring of PAr2-containing axial-chiral di- and monophosphines improves the enantioselectivity by more than 15%. The ligands tested include MeO-Biphep and a P,N-binaphthyl(phosphino-oxazoline) bidentate ligand containing 3,5-di-tert-butylphenyl substituents. Further, several derivs. of the monodentate auxiliary MOP ((R)-2-diarylphosphino-1,1'-binaphthyl) were modified to include 3,5-dialkylphenyl substituents and these auxiliaries were tested in Pd-catalyzed enantioselective hydrosilylation chemical For some of these modified MOP ligands the enantioselectivity increased by 40-50%. Variable-temperature and 2-D NMR studies were carried out on new model complexes and reveal selected restricted rotation around a number of the P-C(ipso) aryl bonds. Solid-state structures for two of the new complexes were determined

IT 133545-16-1, (R)-MeO-Biphep

RL: RCT (Reactant); RACT (Reactant or reagent)
(complexation; preparation and asym. catalytic properties of palladium complexes with mono- and bidentate axial-chiral phosphines modified with bulky alkyl substituents)

RN 133545-16-1 CAPLUS

CN Phosphine, 1,1'-[(1R)-6,6'-dimethoxy[1,1'-biphenyl]-2,2'-diyl]bis[1,1-diphenyl- (CA INDEX NAME)

IT 133545-17-2, (S)-MeO-Biphep

RL: RCT (Reactant); RACT (Reactant or reagent)
(preparation and asym. catalytic properties of palladium complexes with
mono- and bidentate axial-chiral phosphines modified with bulky alkyl
substituents)

RN 133545-17-2 CAPLUS

IT 192138-05-9

RL: CAT (Catalyst use); RCT (Reactant); RACT (Reactant or reagent); USES (Uses)

(ring opening alkylation cocatalyst; preparation and asym. catalytic properties of palladium complexes with mono- and bidentate axial-chiral phosphines modified with bulky alkyl substituents)

RN 192138-05-9 CAPLUS

CN Phosphine, [(1R)-6,6'-dimethoxy[1,1'-biphenyl]-2,2'-diyl]bis[bis[3,5-bis(1,1-dimethylethyl)phenyl]- (9CI) (CA INDEX NAME)

REFERENCE COUNT:

65 THERE ARE 65 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L3 ANSWER 92 OF 212 CAPLUS COPYRIGHT 2007 ACS on STN

ACCESSION NUMBER:

2004:270951 CAPLUS

DOCUMENT NUMBER:

141:7314

TITLE:

The enantioselective total synthesis of alkaloid

(-)-galipeine

AUTHOR(S):

Yang, Peng-Yu; Zhou, Yong-Gui

CORPORATE SOURCE:

Dalian Institute of Chemical Physics, The Chinese Academy of Sciences, Dalian, 116023, Peop. Rep. China

SOURCE: Tet

Tetrahedron: Asymmetry (2004), 15(7), 1145-1149

CODEN: TASYE3; ISSN: 0957-4166

Elsevier Science B.V. PUBLISHER:

Journal DOCUMENT TYPE: English LANGUAGE:

CASREACT 141:7314 OTHER SOURCE(S):

GΙ

The first total synthesis of (-)-galipeine (I) was accomplished in seven AΒ steps with 54% overall yield from isovanillin based on Ir-catalyzed asym. hydrogenation of a quinoline derivative as a key step. The absolute stereochem.

was established by analogy.

133545-17-2 IT

RL: CAT (Catalyst use); USES (Uses)

(enantioselective total synthesis of alkaloid (-)-galipeine)

133545-17-2 CAPLUS RN

Phosphine, 1,1'-[(1S)-6,6'-dimethoxy[1,1'-biphenyl]-2,2'-diyl]bis[1,1-CN diphenyl- (CA INDEX NAME)

THERE ARE 13 CITED REFERENCES AVAILABLE FOR THIS 13 REFERENCE COUNT: RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

CAPLUS COPYRIGHT 2007 ACS on STN ANSWER 93 OF 212

Journal

ACCESSION NUMBER:

2004:231674 CAPLUS

DOCUMENT NUMBER:

140:423405

TITLE:

Asymmetric 1,4-Reductions of Hindered

β-Substituted Cycloalkenones Using Catalytic

SEGPHOS-Ligated CuH

AUTHOR(S):

Lipshutz, Bruce H.; Servesko, Jeff M.; Petersen, Tue

B.; Papa, Patrick P.; Lover, Andrew A.

CORPORATE SOURCE:

Department of Chemistry and Biochemistry, University

of California, Santa Barbara, CA, 93106, USA

SOURCE:

Organic Letters (2004), 6(8), 1273-1275

CODEN: ORLEF7; ISSN: 1523-7060

PUBLISHER:

DOCUMENT TYPE:

American Chemical Society

LANGUAGE: English

OTHER SOURCE(S): CASREACT 140:423405

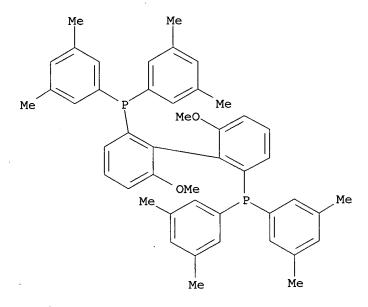
AB The reagent combination of catalytic amts. of copper hydride ligated by a nonracemic SEGPHOS ligand leads in situ to an extremely reactive species capable of effecting asym. hydrosilylations of conjugated cyclic enones in very high ees. An unprecedented substrate-to-ligand ratio as high as 275 000:1 for this transformation has been documented.

IT 394248-45-4, (R)-Xylo-MeO-BIPHEP RL: CAT (Catalyst use); USES (Uses)

(asym. 1,4-redns. of hindered β-substituted cycloalkenones using catalytic SEGPHOS-ligated CuH)

RN 394248-45-4 CAPLUS

CN Phosphine, [(1R)-6,6'-dimethoxy[1,1'-biphenyl]-2,2'-diyl]bis[bis(3,5-dimethylphenyl)- (9CI) (CA INDEX NAME)



REFERENCE COUNT: 22 THERE ARE 22 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L3 ANSWER 94 OF 212 CAPLUS COPYRIGHT 2007 ACS on STN

ACCESSION NUMBER:

2004:208001 CAPLUS

DOCUMENT NUMBER:

140:390937

TITLE:

Phosphine-Catalyzed Regiospecific Allylic Amination and Dynamic Kinetic Resolution of Morita-Baylis-

Hillman Acetates

AUTHOR(S):

Cho, Chang-Woo; Kong, Jong-Rock; Krische, Michael J. Department of Chemistry and Biochemistry, University

of Texas at Austin, Austin, TX, 78712, USA

SOURCE:

Organic Letters (2004), 6(8), 1337-1339

CODEN: ORLEF7; ISSN: 1523-7060

PUBLISHER:

American Chemical Society

DOCUMENT TYPE:

Journal

LANGUAGE:

CORPORATE SOURCE:

English

OTHER SOURCE(S):

CASREACT 140:390937

AB Exposure of Morita-Baylis-Hillman (MBH) acetates to tertiary phosphine catalysts in the presence of 4,5-dichlorophthalimide enables regiospecific allylic substitution through a tandem SN2'-SN2' mechanism. Through the use of the chiral phosphine catalyst (R)-Cl-MeO-BIPHEP, chiral racemic MBH acetate 4 is converted to the corresponding allylic amination product in 80% yield and 56% enantiomeric excess, thus establishing the feasibility

of dynamic kinetic resolution

185913-97-7 IT

RL: CAT (Catalyst use); USES (Uses)

(phosphine-catalyzed regiospecific allylic amination and dynamic kinetic resolution of Morita-Baylis-Hillman acetates)

RN185913-97-7 CAPLUS

Phosphine, [(1R)-5,5'-dichloro-6,6'-dimethoxy[1,1'-biphenyl]-2,2'-CN diyl]bis[diphenyl- (9CI) (CA INDEX NAME)

REFERENCE COUNT: 31 THERE ARE 31 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

ANSWER 95 OF 212 CAPLUS COPYRIGHT 2007 ACS on STN

ACCESSION NUMBER:

2004:178968 CAPLUS

DOCUMENT NUMBER:

140:375039

TITLE:

Platinum-Catalyzed Intramolecular Alkylation of

Indoles with Unactivated Olefins

AUTHOR(S):

Liu, Cong; Han, Xiaoqing; Wang, Xiang; Widenhoefer,

Ross A.

CORPORATE SOURCE:

P. M. Gross Chemical Laboratory, Duke University,

Durham, NC, 27708-0346, USA

American Chemical Society

SOURCE:

Journal of the American Chemical Society (2004),

126(12), 3700-3701

CODEN: JACSAT; ISSN: 0002-7863

PUBLISHER:

Journal

DOCUMENT TYPE:

LANGUAGE:

English

OTHER SOURCE(S):

CASREACT 140:375039

Reaction of 1-methyl-2-(4-pentenyl)indole with a catalytic amount of PtCl2 (2 mol %) in dioxane that contained a trace of HCl (5 mol %) at 60

°C for 24 h led to the isolation of 4,9-dimethyl-2,3,4,9-tetrahydro-1H-carbazole in 92% yield. Platinum-catalyzed cyclization of 2-(4-pentenyl)indoles tolerated substitution at each position of the 4-pentenyl chain. Furthermore, the protocol was applicable to the synthesis of tetrahydro- β -carbolinones and was effective for cyclization of unprotected indoles. 2-(3-Butenyl)indoles underwent platinum-catalyzed cyclization with exclusive 6-endo-trig regioselectivity. Mechanistic studies established a mechanism for the platinum-catalyzed cyclization of 2-alkenyl indoles involving nucleophilic attack of the indole on a platinum-complexed olefin.

256390-45-1

RL: CAT (Catalyst use); USES (Uses)

(platinum-catalyzed intramol. alkylation of indoles with unactivated olefins)

256390-45-1 CAPLUS RN

CN Phosphine, [(1R)-6,6'-dimethoxy[1,1'-biphenyl]-2,2'-diyl]bis[bis[3,5-bis(1methylethyl)phenyl]- (9CI) (CA INDEX NAME)

IT 352655-61-9

RL: CAT (Catalyst use); RCT (Reactant); RACT (Reactant or reagent); USES (Uses)

(platinum-catalyzed intramol. alkylation of indoles with unactivated olefins)

RN 352655-61-9 CAPLUS

CN Phosphine, [(1R)-6,6'-dimethoxy[1,1'-biphenyl]-2,2'-diyl]bis[bis[3,5-bis(1,1-dimethylethyl)-4-methoxyphenyl]- (9CI) (CA INDEX NAME)

REFERENCE COUNT:

THERE ARE 34 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L3 ANSWER 96 OF 212 CAPLUS COPYRIGHT 2007 ACS on STN

ACCESSION NUMBER:

2004:70307 CAPLUS

DOCUMENT NUMBER:

140:253116

TITLE:

Difluorphos, an electron-poor diphosphane: A good match between electronic and steric features

AUTHOR(S):

Jeulin, Severine; Duprat de Paule, Sebastien;

Ratovelomanana-Vidal, Virginie; Genet, Jean-Pierre;

Champion, Nicolas; Dellis, Philippe

CORPORATE SOURCE:

Laboratoire de Synthese Selective Organique et

Produits Naturels, Ecole Nationale Superieure de

Chimie de Paris, Paris, 75231, Fr.

SOURCE: Angewandte Chemie, International Edition (2004),

43(3), 320-325

CODEN: ACIEF5; ISSN: 1433-7851 Wiley-VCH Verlag GmbH & Co. KGaA

PUBLISHER: DOCUMENT TYPE:

Journal

LANGUAGE:

English

Ι

OTHER SOURCE(S):

CASREACT 140:253116

GI

AB Both enantiomers of difluorphos I were synthesized and their stereoelectronic features were evaluated in theor. and exptl. studies. The unusual π acidity of I explains the excellent results obtained with it in ruthenium-mediated asym. hydrogenation of fluorinated $\beta\text{-functionalized}$ ketones. These results are better than those obtained with other biphenyl-based diphosphines.

IT 133545-17-2

RL: CAT (Catalyst use); USES (Uses) (asym. synthesis of β -functionalized alcs. by Ru-catalyzed hydrogenation of β -keto esters and β -diketones using chiral diphosphines as ligands)

RN 133545-17-2 CAPLUS

CN Phosphine, 1,1'-[(1S)-6,6'-dimethoxy[1,1'-biphenyl]-2,2'-diyl]bis[1,1-diphenyl- (CA INDEX NAME)

IT 133577-92-1

RL: PRP (Properties)

(calcns. of dihedral angle of atropisomeric diphosphines)

RN 133577-92-1 CAPLUS

CN Phosphine, (6,6'-dimethoxy[1,1'-biphenyl]-2,2'-diyl)bis[diphenyl- (9CI) (CA INDEX NAME)

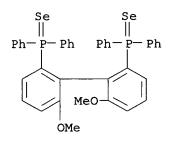
IT 669713-28-4

RL: PRP (Properties)

(coupling consts. and 31P NMR data of atropisomeric diphosphine diselenides)

RN 669713-28-4 CAPLUS

CN Phosphine selenide, (6,6'-dimethoxy[1,1'-biphenyl]-2,2'-diyl)bis[diphenyl-(9CI) (CA INDEX NAME)



REFERENCE COUNT: 50 THERE ARE 50 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L3 ANSWER 97 OF 212 CAPLUS COPYRIGHT 2007 ACS on STN

ACCESSION NUMBER: 2003:915316 CAPLUS

DOCUMENT NUMBER: 140:111391

TITLE: Stereoselective synthesis of diltiazem via dynamic

kinetic resolution

AUTHOR(S): Mordant, Celine; Cano de Andrade, Cristina; Touati,

Ridha; Ratovelomanana-Vidal, Virginie; Ben Hassine,

Bechir; Genet, Jean-Pierre

CORPORATE SOURCE: Laboratoire de Synthese Selective Organique et

Produits Naturels, UMR 7573 C.N.R.S., Ecole Nationale Superieure de Chimie de Paris, Paris, 75231/05, Fr.

SOURCE: Synthesis (2003), (15), 2405-2409

CODEN: SYNTBF; ISSN: 0039-7881

PUBLISHER: Georg Thieme Verlag

DOCUMENT TYPE: Journal LANGUAGE: English

OTHER SOURCE(S): CASREACT 140:111391

AB An efficient synthesis of diltiazem has been developed using dynamic kinetic resolution (DKR) as a key step. Me (2S,3S)-2-chloro-3-hydroxy-3-(4-methoxyphenyl)propionate was synthesized from a racemic mixture of α -chloro- β -keto ester, with high anti-diastereoselectivity (92%) and enantioselectivity (95%), based on an asym. hydrogenation reaction with a chiral ruthenium(II) catalyst, simply prepared by mixing $[(1,2,5,6-\eta)-1,5$ -cyclooctadiene]bis $[(1,2,3-\eta)-2$ -methyl-2-

propenyl]ruthenium with the atropisomeric ligand [(1S)-6,6'-Dimethoxy[1,1'biphenyl]-2,2'-diyl]bis[diphenylphosphine]. By treatment of

 $(+) - (\alpha S, \beta S) - \alpha - \text{chloro} - \beta - \text{hydroxy} - 4 -$

methoxybenzenepropanoic acid Me ester with a base, the corresponding Me trans-glycidate [i.e., (-)-(2R,3S)-3-(4-methoxyphenyl)oxiranecarboxylic acid Me ester], a key intermediate of diltiazem, was easily obtained.

133545-17-2, (S)-MeO-BIPHEP IT

RL: CAT (Catalyst use); USES (Uses)

(enantioselective synthesis of (+)-cis-diltiazem using dynamic kinetic resolution in the stereoselective and enantioselective hydrogenation of an α -chloro- β -keto ester as the key step)

RN 133545-17-2 CAPLUS

Phosphine, 1,1'-[(1S)-6,6'-dimethoxy[1,1'-biphenyl]-2,2'-diyl]bis[1,1-CN diphenyl- (CA INDEX NAME)

OMe PPh2

Ph2P MeO

REFERENCE COUNT:

THERE ARE 38 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

ANSWER 98 OF 212 CAPLUS COPYRIGHT 2007 ACS on STN

38

ACCESSION NUMBER: 2003:877267 CAPLUS

DOCUMENT NUMBER:

140:128379

TITLE:

The development of a practical synthesis of the potent

and selective somatostatin sst3 receptor antagonist

[4-(3,4-difluoro-phenyl)-piperazine-1-yl]-

 $\{(4S, 4aS, 8aR) - 2[(S) - 3 - (6 - methoxy - pyridin - 3 - y1) - 2 - (6 - methoxy - pyridin - 3 - y1) - (6$ methyl-propyl]-decahydroisoquinoline-4-yl}-methanone

(NVP-ACQ090)

Banziger, Markus; Cercus, Jacques; Hirt, Hans; Laumen, AUTHOR(S):

Kurt; Malan, Christophe; Spindler, Felix; Struber,

Fritz; Troxler, Thomas

Chemical & Analytical Development, Novartis Pharma AG, CORPORATE SOURCE:

Basel, CH-4002, Switz.

Tetrahedron: Asymmetry (2003), 14(22), 3469-3477 SOURCE:

CODEN: TASYE3; ISSN: 0957-4166

PUBLISHER: Elsevier Science B.V.

Journal DOCUMENT TYPE: English LANGUAGE:

OTHER SOURCE(S): CASREACT 140:128379

GI

AB The decahydroisoquinoline I (NVP-ACQ090) is a potent and selective antagonist at the somatostatin sst3 receptor. The original research synthesis of I comprises a main chain of nine linear steps and two side chains of three and steps, resp. This synthesis is highly convergent, but very complex and expensive, and involves several reagents that are not acceptable for a large scale synthesis. In chemical development, all the unacceptables could be replaced, and the overall efficiency of the synthesis was much improved.

IT 133545-16-1 150971-49-6 256390-47-3

352655-61-9 505032-20-2

RL: CAT (Catalyst use); USES (Uses)

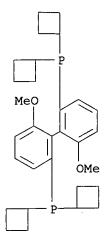
(enantioselective hydrogenation; large-scale preparation of somatostatin receptor antagonist, (piperazinylcarbonyl) (pyridylpropyl) decahydroisoqu inoline)

RN 133545-16-1 CAPLUS

CN Phosphine, 1,1'-[(1R)-6,6'-dimethoxy[1,1'-biphenyl]-2,2'-diyl]bis[1,1-diphenyl- (CA INDEX NAME)

RN 150971-49-6 CAPLUS

CN Phosphine, [(1R)-6,6'-dimethoxy[1,1'-biphenyl]-2,2'-diyl]bis[dicyclobutyl-(9CI) (CA INDEX NAME)



RN 256390-47-3 CAPLUS

CN Phosphine, [(1R)-6,6'-dimethoxy[1,1'-biphenyl]-2,2'-diyl]bis[bis(3,4,5-trimethoxyphenyl)- (9CI) (CA INDEX NAME)

RN 352655-61-9 CAPLUS

CN Phosphine, [(1R)-6,6'-dimethoxy[1,1'-biphenyl]-2,2'-diyl]bis[bis[3,5-bis(1,1-dimethylethyl)-4-methoxyphenyl]- (9CI) (CA INDEX NAME)

RN 505032-20-2 CAPLUS

CN Benzenamine, 4,4',4'',4'''-[[(1R)-6,6'-dimethoxy[1,1'-biphenyl]-2,2'-diyl]diphosphinidyne]tetrakis[N,N-dimethyl- (9CI) (CA INDEX NAME)

REFERENCE COUNT:

58 THERE ARE 58 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L3 ANSWER 99 OF 212 CAPLUS COPYRIGHT 2007 ACS on STN

ACCESSION NUMBER:

2003:844265 CAPLUS

DOCUMENT NUMBER:

140:59361

TITLE:

Asymmetric Hydrogenation of Ketones with

Polymer-Supported Chiral 1,2-Diphenylethylenediamine Li, Xiaoguang; Chen, Weiping; Hems, William; King,

Frank; Xiao, Jianliang

CORPORATE SOURCE:

Leverhulme Centre for Innovative Catalysis, Department of Chemistry, University of Liverpool, Liverpool, L69

7ZD, UK

SOURCE:

Organic Letters (2003), 5(24), 4559-4561

CODEN: ORLEF7; ISSN: 1523-7060

PUBLISHER:

AUTHOR(S):

American Chemical Society

DOCUMENT TYPE:

Journal

LANGUAGE: English

CASREACT 140:59361 OTHER SOURCE(S):

A poly(ethylene glycol)-supported chiral diamine (PEG-2), in which the polymer is attached to the Ph rings, has been synthesized and shown to be highly effective in asym. hydrogenation of unfunctionalized aromatic ketones with the possibility of reuse. PEG-2 can also serve as a chiral scaffold on which various immobilized chiral catalysts could be easily built.

ΙT 133545-16-1, (R)-MeO-BIPHEP

RL: CAT (Catalyst use); USES (Uses)

(asym. hydrogenation of various aromatic ketones in presence of preparation

of

poly(ethylene glycol)-supported chiral diphenylethylenediamine/rutheniu m complexes and diphosphine ligands)

RN133545-16-1 CAPLUS

Phosphine, 1,1'-[(1R)-6,6'-dimethoxy[1,1'-biphenyl]-2,2'-diyl]bis[1,1-CN diphenyl- (CA INDEX NAME)

REFERENCE COUNT: 36 THERE ARE 36 CITED REFERENCES AVAILABLE FOR THIS

RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L3 ANSWER 100 OF 212 CAPLUS COPYRIGHT 2007 ACS on STN

139:261176

ACCESSION NUMBER:

2003:757681 CAPLUS

DOCUMENT NUMBER: TITLE:

Process for asymmetric hydrogenation of

hexahydroquinoline salts

INVENTOR(S):

Puentener, Kurt; Scalone, Michelangelo; Wang, Shaoning

Roche Vitamins A.-G., Switz.

SOURCE:

PCT Int. Appl., 16 pp. CODEN: PIXXD2

DOCUMENT TYPE:

Patent

LANGUAGE:

English

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT ASSIGNEE(S):

PATENT N	10.			KIN	D :	DATE		i	APPL:	ICAT:	ION I	.OI		D	ATE	
WO 2003078399			A 1	;	20030925		WO 2003-EP2610						20030313			
W:	ΑE,	AG,	AL,	AM,	AT,	ΑU,	ΑZ,	BA,	BB,	BG,	BR,	BY,	ΒZ,	CA,	CH,	CN,
	CO,	CR,	CU,	CZ,	DE,	DK,	DM,	DZ,	EC,	EE,	ES,	FI,	GB,	GD,	GE,	GH,
	GM,	HR,	HU,	ID,	IL,	IN,	IS,	JP,	KE,	KG,	KP,	KR,	ΚZ,	LC,	LK,	LR,
	LS,	LT,	LU,	LV,	MA,	MD,	MG,	MK,	MN,	MW,	MX,	MZ,	NO,	NZ,	OM,	PH,
	PL,	PT,	RO,	RU,	SD,	SE,	SG,	SK,	SL,	ТJ,	TM,	TN,	TR,	TT,	TZ,	UA,
	UG,	US,	UZ,	VN,	YU,	ZA,	ZM,	zw								
RW:	GH,	GM,	ΚE,	LS,	MW,	ΜZ,	SD,	SL,	SZ,	TZ,	UG,	ZM,	ZW,	AM,	ΑZ,	BY,
	KG,	KZ,	MD,	RU,	ТJ,	TM,	AT,	BE,	BG,	CH,	CY,	CZ,	DE,	DK,	EE,	ES,

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FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PT, RO, SE, SI, SK, TR,
             BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG
                                              CA 2003-2478275
                                 20030925
                           Α1
     CA 2478275
                                             AU 2003-227057
                                                                      20030313
                                 20030929
     AU 2003227057
                           Α1
                                                                      20030313
                                             EP 2003-744359
                                 20041215
     EP 1485357
                           A1
     EP 1485357
                           B1
                                 20050706
             AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT,
                              FI, RO, MK, CY, AL, TR, BG, CZ, EE, HU, SK
             IE, SI, LT, LV,
                                 20050707
                                             US 2003-507940
                                                                      20030313
     US 2005148776
                           A1
                                              CN 2003-804515
                                                                      20030313
     CN 1639127
                           Α
                                 20050713
                                              AT 2003-744359
                                                                      20030313
                           Т
                                 20050715
     AT 299136
                           Т
                                 20050915
                                              JP 2003-576405
                                                                      20030313
     JP 2005527527
                                              EP 2002-6124
                                                                      20020319
                                                                  Α
PRIORITY APPLN. INFO .:
                                              WO 2003-EP2610
                                                                      20030313
                          CASREACT 139:261176; MARPAT 139:261176
OTHER SOURCE(S):
```

Ι

GΙ

$$R^3$$
 R^4
 R^5
 PR^1_2
 PR^2_2
 R^6
 PR^2_2
 R^6
 PR^2_2

ΙΙ

AB The asym. hydrogenation of 1-(4-methoxybenzy1)-3,4,5,6,7,8hexahydroisoquinolinium salts to yield (S) or (R)-1-(4-methoxybenzyl)-1,2,3,4,5,6,7,8-hexahydroisoquinolinium salts can be effected with superior optical yield by the use of an iridium or rhodium complex catalyst comprising a chiral diphosphine ligands, I and II (R1, R2 = Ph substituted C1-8 alkyl, C1-8 alkoxy, di(C1-8 alkyl)amino, morpholino, Ph, tri-C1-8-alkylsilyl, etc.; R3, R4 = H, C1-8 alkyl, C1-8 alkoxy, C1-8 dialkylamino, etc.; R5 = C1-8 alkyl, C1-8 alkoxy, OH, C1-8 alkyl-C(O)O, etc.; R6 = C1-8 alkyl, etc.), (S)-1-(4-methoxybenzyl)-1,2,3,4,5,6,7,8hexahydroisoguinoline and salts thereof are intermediate products in the manufacture of dextromethorphan, a known antitussive agent. Thus, reaction of [Ir(COD)C1]2 with (S)-3,5-tBu-MeOBIPHEP in MeOH at room temperature gave the catalyst which was used as asym. hydrogenation catalyst for 1-(4-methoxybenzyl)-3,4,5,6,7,8-hexahydroisoquinoline hydrogen sulfate. ΙT 167709-31-1

RL: CAT (Catalyst use); RCT (Reactant); RACT (Reactant or reagent); USES (Uses)

(chiral diphosphine rhodium or iridium complex catalyzed process for asym. hydrogenation of hexahydroquinoline salts)

RN 167709-31-1 CAPLUS

Phosphine, 1,1'-[(1S)-6,6'-dimethoxy[1,1'-biphenyl]-2,2'-diyl]bis[1,1-CN bis[3,5-bis(1,1-dimethylethyl)phenyl] - (CA INDEX NAME)

PAGE 2-A

REFERENCE COUNT:

4 THERE ARE 4 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L3 ANSWER 101 OF 212 CAPLUS COPYRIGHT 2007 ACS on STN

ACCESSION NUMBER:

2003:757296 CAPLUS

DOCUMENT NUMBER:

139:276809

TITLE:

Process for preparing nonracemic chiral alcohols

INVENTOR(S): Tucker, Charles E.; Jiang, Qiongzhong

PATENT ASSIGNEE(S):

DSM N.V., Neth.

SOURCE:

U.S. Pat. Appl. Publ., 17 pp., Cont.-in-part of

U.S.Ser.No. 57,826.

CODEN: USXXCO

DOCUMENT TYPE:

Patent

LANGUAGE:

English

FAMILY ACC. NUM. COUNT:

PATENT INFORMATION:

	PAT	CENT	NO.		•	KIN	D :	DATE		i	APPL:	[CAT	ION I	.00		D	ATE	
												- -						
	US	2003	1813	19		A1	:	2003	0925	1	US 2	002-	1585	60		2	0020	521
	US	2003	1445	21		A1		2003	0731	1	US 2	002-	5782	6		2	0020	124
	US	6743	921			В2	;	2004	0601									
WO 2003061826				A 1		2003	0731	1	WO 2	002-1	NL82	7		2	00212	213		
		W:															CH,	
			co,	CR,	CU,	CZ,	DE,	DK,	DM,	DZ,	EC,	EE,	ES,	FI,	GB,	GD,	GE,	GH,
			GM,	HR,	HU,	ID,	IL,	IN,	IS,	JP,	ΚĖ,	KG,	KP,	KR,	ΚZ,	LC,	LK,	LR,
			LS.	LT.	LU.	LV.	MA.	MD.	MG.	MK,	MN,	MW,	MX,	MZ,	NO,	NZ,	OM,	PH,

PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG PRIORITY APPLN. INFO.: US 2002-57826 A2 20020124 US 2002-158560 A 20020521 OTHER SOURCE(S): MARPAT 139:276809 The present invention provides a catalyst system and a process for the preparation of a nonracemic chiral alc. by hydrogenation of a ketone using the catalyst system, wherein the catalyst system comprises ruthenium, a nonracemic chiral diphosphine ligand, a bidentate amine ligand, and an organic base selected from alkylamidines, alkylguanidines, aminophosphazenes, and proazaphosphatranes. Thus, in a dry nitrogen-filled glovebox, a 20-mL glass reaction vial was charged with 5 mL 250 µL (1.25 µmol) [RuC12(R,R,R,R-BICP)(DMF)n] (preparation given) in isopropanol, 5 mL isopropanol, and 125 μL 0.1 M (12.5 μmol) ethylenediamine in isopropanol. After stirring for several minutes, 73 µL (625 µmol) acetophenone was added, followed by 0.50 mL 0.1 M (50 μ mol) tetramethyl-2-tert-butylguanidine in isopropanol. The glass reaction vial containing the resulting mixture was sealed in an autoclave and then removed from the glovebox. The gas phase in the autoclave was replaced by hydrogen at 18 bar and the reaction mixture was stirred at room temperature for 6 h under 17-18 bar hydrogen to give, after silica gel chromatog., (S)-1-phenylethanol (77% e.e.). 133545-17-2, (S)-MeOBIPHEP IT RL: CAT (Catalyst use); USES (Uses) (preparation of nonracemic chiral alcs. by stereoselective hydrogenation of

ketone using catalyst system, comprising ruthenium complex, nonracemic chiral diphosphine ligand, bidentate amine ligand, and organic base)

Phosphine, 1,1'-[(1S)-6,6'-dimethoxy[1,1'-biphenyl]-2,2'-diyl]bis[1,1-

133545-17-2 CAPLUS

diphenyl- (CA INDEX NAME)

RN

CN

L3 ANSWER 102 OF 212 CAPLUS COPYRIGHT 2007 ACS on STN

ACCESSION NUMBER:

2003:717728 CAPLUS

DOCUMENT NUMBER:

139:245769

TITLE: INVENTOR(S):

Process for preparing nonracemic chiral alcohols

Tucker, Charles E.; Jiang, Qiongzhong

PATENT ASSIGNEE(S):

Dsm N.V., Neth.

SOURCE:

U.S. Pat. Appl. Publ., 12 pp., Cont.-in-part of U.S.

Ser. No. 57,826.

CODEN: USXXCO

DOCUMENT TYPE:

LANGUAGE:

Patent English

FAMILY ACC. NUM. COUNT:

PATENT INFORMATION:

	PAT	ENT I	NO.			KIN	D	DATE			APPL	ICAT	ION	NO.		D.	ATE	
	US	2003	1712	13		A1	-	2003	0911		US 2	002-	1534	21		2	0020	521
	US	6806	378			B2		2004	1019									
	US	2003	1445	21		A 1		2003	0731		US 2	002-	5782	6		2	0020	124
	US	6743	921			B2		2004	0601									
	WO	2003	0618	24		A1		2003	0731	,	WO 2	002-1	NL82	5		2	0021	213
		W:	ΑE,	AG,	AL,	AM,	ΑT,	AU,	ΑZ,	BA,	BB,	BG,	BR,	BY,	ΒZ,	CA,	CH,	CN,
			co,	CR,	CU,	CZ,	DE,	DK,	DM,	DZ,	EC,	EE,	ES,	FΙ,	GB,	GD,	GE,	GH,
			GM,	HR,	HU,	ID,	IL,	IN,	IS,	JP,	ΚE,	KG,	ΚP,	KR,	ΚZ,	LC,	LK,	LR,
			LS,	LT,	LU,	LV,	MA,	MD,	MG,	MK,	MN,	MW,	MX,	ΜZ,	NO,	ΝZ,	OM,	PH,
			PL,	PT,	RO,	RU,	SC,	SD,	SE,	SG,	SK,	SL,	ТJ,	TM,	TN,	TR,	TT,	TZ,
			UA,	UG,	US,	UZ,	VC,	VN,	YU,	ZA,	ZM,	zw						
		RW:	GH,	GM,	KE,	LS,	MW,	MZ,	SD,	SL,	SZ,	TZ,	UG,	ZM,	ZW,	AM,	ΑZ,	BY,
			KG,	KZ,	MD,	RU,	TJ,	TM,	AT,	BE,	BG,	CH,	CY,	CZ,	DE,	DK,	EE,	ES,
			FI,	FR,	GB,	GR,	IE,	IT,	LU,	MC,	NL,	PT,	SE,	SI,	SK,	TR,	BF,	ВJ,
						CM,												
	ΕP	1465				A1											0021	213
		R:	AT,	BE,	CH,	DE,	DK,	ES,	FR,	GB,	GR,	IT,	LI,	LU,	NL,	SE,	MC,	PT,
						LV,												
PRIO	RITY	APP				•	•									A2 2	0020	124
											US 2	002-	1534	21		A 2	0020	521
																w 2		

OTHER SOURCE(S): MARPAT 139:245769

AB The present invention provides a catalyst system and a process for the preparation of a nonracemic chiral aromatic alc. such as S-1-phenyl-1-ethanol by

hydrogenation of a ketone such as acetophenone using the catalyst system, wherein the catalyst system comprises ruthenium, a nonracemic chiral diphosphine ligand, an amino-thioether ligand, and a base.

IT 133545-16-1 133545-17-2, S-2,2'-Bis(diphenylphosphino)-

6,6'-dimethoxy-1,1'-biphenyl

RL: CAT (Catalyst use); USES (Uses)

(preparing nonracemic chiral alcs. by hydrogenation of ketones in presence of ruthenium, nonracemic chiral diphosphine ligands, amino thioether ligands, and bases)

RN 133545-16-1 CAPLUS

133545-17-2 CAPLUS RN

Phosphine, 1,1'-[(1S)-6,6'-dimethoxy[1,1'-biphenyl]-2,2'-diyl]bis[1,1-CN diphenyl- (CA INDEX NAME)

REFERENCE COUNT:

52 THERE ARE 52 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

ANSWER 103 OF 212 CAPLUS COPYRIGHT 2007 ACS on STN

ACCESSION NUMBER:

2003:679432 CAPLUS

DOCUMENT NUMBER:

139:291814

TITLE:

First Catalytic Reductive Coupling of 1,3-Diynes to Carbonyl Partners: A New Regio- and Enantioselective

C-C Bond Forming Hydrogenation

AUTHOR(S):

Huddleston, Ryan R.; Jang, Hye-Young; Krische, Michael

J.

CORPORATE SOURCE:

Department of Chemistry and Biochemistry, University

of Texas at Austin, Austin, TX, 78712, USA

SOURCE:

Journal of the American Chemical Society (2003),

125(38), 11488-11489

CODEN: JACSAT; ISSN: 0002-7863

PUBLISHER:

American Chemical Society

DOCUMENT TYPE:

Journal

LANGUAGE:

English

OTHER SOURCE(S):

CASREACT 139:291814

Upon exposure of dignes and glyoxals to cationic Rh(I) catalysts under 1 atm of hydrogen gas, regioselective condensation occurs to afford highly unsatd. enyne products without over-reduction In the presence of chiral phosphine ligands, reductive coupling products are obtained in high enantiomeric excess at ambient temperature and pressure. The present studies are among the first examples of the electrophilic trapping of organometallic intermediates obtained transiently under the conditions of catalytic hydrogenation.

IT 185913-97-7

RL: CAT (Catalyst use); USES (Uses)

(regioselective and enantioselective catalytic reductive condensation of 1,3-diynes with glyoxals under the conditions of catalytic hydrogenation)

185913-97-7 CAPLUS RN

Phosphine, [(1R)-5,5'-dichloro-6,6'-dimethoxy[1,1'-biphenyl]-2,2'-CN diyl]bis[diphenyl- (9CI) (CA INDEX NAME)

REFERENCE COUNT:

THERE ARE 6 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L3 ANSWER 104 OF 212 CAPLUS COPYRIGHT 2007 ACS on STN

6

ACCESSION NUMBER:

2003:617586 CAPLUS

DOCUMENT NUMBER:

139:292381

TITLE:

AUTHOR(S):

Highly Enantioselective Iridium-Catalyzed

Hydrogenation of Heteroaromatic Compounds, Quinolines

Wang, Wen-Bo; Lu, Sheng-Mei; Yang, Peng-Yu; Han,

Xiu-Wen; Zhou, Yong-Gui

CORPORATE SOURCE:

Dalian Institute of Chemical Physics, Chinese Academy

of Sciences, Dalian, 116023, Peop. Rep. China

SOURCE: Journal of the American Chemical Society (2003),

125(35), 10536-10537 CODEN: JACSAT; ISSN: 0002-7863

PUBLISHER: American Chemical Society

DOCUMENT TYPE: Journal

LANGUAGE: English

OTHER SOURCE(S): CASREACT 139:292381

GI

The highly enantioselective hydrogenation of quinoline derivs. I (R = Me, 3-butenyl, CH2OCOMe, etc., R1 = H, F, Me, MeO) is developed using [Ir(COD)Cl]2/(R)-MeO-Biphep/I2 system, and this methodol. has been applied to the asym. synthesis of three naturally occurring alkaloids angustureine, galipinine, and cuspareine. Thus, reacting I (R = n-pentyl, R1 = H) with [Ir(COD)Cl]2/(R)-MeO-Biphep/I2 gave (R)-2-n-pentyl-1,2,3,4-tetrahydroquinoline which was treated with HCHO/HOAc/NaBH3CN/MeCN to give (-)-angustureine in 94% yield. This method provided an efficient access to a variety of optically active tetrahydroquinolines with up to 96% ee. Furthermore, the absolute configurations of (+)-angustureine and (-)-galipinine can be assigned through this synthesis.

IT 133545-16-1 133545-17-2

RL: CAT (Catalyst use); USES (Uses)

(asym. iridium-catalyzed hydrogenation of quinolines and application to synthesis of (-)-angustureine, (-)-cuspareine, (-)-galipinine, and (S)-flumequine)

RN 133545-16-1 CAPLUS

RN 133545-17-2 CAPLUS

CN Phosphine, 1,1'-[(1S)-6,6'-dimethoxy[1,1'-biphenyl]-2,2'-diyl]bis[1,1-diphenyl- (CA INDEX NAME)

REFERENCE COUNT:

33 THERE ARE 33 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L3 ANSWER 105 OF 212 CAPLUS COPYRIGHT 2007 ACS on STN

ACCESSION NUMBER:

2003:592748 CAPLUS

DOCUMENT NUMBER:

139:276631

TITLE:

Tweaking Copper Hydride (CuH) for Synthetic Gain. A Practical, One-Pot Conversion of Dialkyl Ketones to

Reduced Trialkylsilyl Ether Derivatives

AUTHOR(S):

Lipshutz, Bruce H.; Caires, Christopher C.; Kuipers,

Peter; Chrisman, Will

CORPORATE SOURCE:

Department of Chemistry and Biochemistry, University

of California, Santa Barbara, CA, 93106, USA

SOURCE:

Organic Letters (2003), 5(17), 3085-3088

CODEN: ORLEF7; ISSN: 1523-7060

PUBLISHER:

American Chemical Society

DOCUMENT TYPE:

Journal

LANGUAGE:

English

OTHER SOURCE(S):

CASREACT 139:276631

AB Variations in the reagents and stoichiometries used to generate CuH in situ, as well as the nature of the ligands present, have led to a very efficient and inexpensive method for effecting hydrosilylations of dialkyl ketones R1COR2 [R1 = Me, R2 = PhCH2CH2, n-C9H19; R1R2 = MeCH(CH2)4; etc.] with formation of trialkylsilyl ethers R1R2CHOSiR32R4 (R3 = R4 = Et; R3 = Me, R4 = Me3C).

362634-22-8 IT

RL: CAT (Catalyst use); USES (Uses)

(preparation of trialkylsilyl ethers via copper hydride-mediated hydrosilylation of ketones with trialkyl silanes)

RN

362634-22-8 CAPLUS
Phosphine, 1,1'-[(1S)-6,6'-dimethoxy[1,1'-biphenyl]-2,2'-diyl]bis[1,1-bis(3,5-dimethylphenyl)- (CA INDEX NAME) CN

REFERENCE COUNT:

THERE ARE 29 CITED REFERENCES AVAILABLE FOR THIS 29 RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

CAPLUS COPYRIGHT 2007 ACS on STN ANSWER 106 OF 212

Patent

ACCESSION NUMBER:

2003:591067 CAPLUS

DOCUMENT NUMBER:

139:151398

TITLE:

Process and ruthenium-based catalysts for preparing

nonracemic chiral alcohols

INVENTOR(S):

Tucker, Charles Edward; Jiang, Qiongzhong

PATENT ASSIGNEE(S):

SOURCE:

Dsm N.V., Neth. PCT Int. Appl., 41 pp.

CODEN: PIXXD2

DOCUMENT TYPE:

English

LANGUAGE: FAMILY ACC. NUM. COUNT: 7

PATENT INFORMATION:

PATENT NO.				KIND DATE			APPLICATION NO.						DATE				
WO 2003061826				A1	_	20030731		1	WO 2002-NL827					20021213			
	W:	ΑE,	AG,	AL,	AM,	ΑT,	ΑU,	ΑZ,	BA,	BB,	BG,	BR,	BY,	BZ,	CA,	CH,	CN,
		co,	CR,	CU,	CZ,	DE,	DK,	DM,	DZ,	EC,	EE,	ES,	FI,	GB,	GD,	GE,	GH,
		GM,	HR,	HU,	ID,	IL,	IN,	IS,	JP,	KE,	KG,	KP,	KR,	ΚZ,	LC,	LK,	LR,
		LS,	LT,	LU,	LV,	MA,	MD,	MG,	MK,	MN,	MW,	MX,	MZ,	NO,	NZ,	OM,	PH,
		PL,	PT,	RO,	RU,	SC,	SD,	SE,	SG,	SK,	SL,	ТJ,	TM,	TN,	TR,	TT,	TZ,
		UA,	UG,	US,	UZ,	VC,	VN,	YU,	ZA,	ZM,	ZW						
	RW:	GH,	GM,	KE,	LS,	MW,	MZ,	SD,	SL,	SZ,	TZ,	UG,	ZM,	ZW,	AM,	ΑZ,	BY,
		KG,	ΚZ,	MD,	RU,	ТJ,	TM,	ΑT,	BE,	BG,	CH,	CY,	CZ,	DE,	DK,	EE,	ES,
		FI,	FR,	GB,	GR,	ΙE,	IT,	LU,	MC,	NL,	PT,	SE,	SI,	SK,	TR,	BF,	ВJ,
		CF,	CG,	CI,	CM,	GA,	GN,	GQ,	GW,	ML,	MR,	NE,	SN,	TD,	TG		
US 2003144521				A1		2003	0731		US 2	002-	5782	6					

US 6743921 B2 20040601

US 2002-158560 20020521 20030925 US 2003181319 **A**1 A 20020124 PRIORITY APPLN. INFO.: US 2002-57826 . US 2002-158560 A 20020521

MARPAT 139:151398 OTHER SOURCE(S):

The present invention provides a catalyst system and a process for the preparation of a nonracemic chiral alc. by hydrogenation of a ketone using the catalyst system, wherein the catalyst system comprises ruthenium, a nonracemic chiral diphosphine ligand, a bidentate amine ligand, and an organic base selected from alkylamidines, alkylguanidines, aminophosphazenes, and proazaphosphatranes. Acetophenone was hydrogenated to S-1-phenethanol using a catalyst system prepared from RuCl2(benzene)2, (R,R,R,R)-2,2'-bis-(diphenylphosphino)-1,1'-dicyclopentane, ethylenediamine, and tetramethyl-2-t-butylguanidine.

IT 133545-17-2, S-MeOBIPHEP

RL: CAT (Catalyst use); USES (Uses)

(process and ruthenium-based catalysts for preparing nonracemic chiral alcs.)

133545-17-2 CAPLUS RN

Phosphine, 1,1'-[(1S)-6,6'-dimethoxy[1,1'-biphenyl]-2,2'-diyl]bis[1,1-CN diphenyl- (CA INDEX NAME)

REFERENCE COUNT: 12 THERE ARE 12 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

ANSWER 107 OF 212 CAPLUS COPYRIGHT 2007 ACS on STN

ACCESSION NUMBER:

2003:591065 CAPLUS

DOCUMENT NUMBER:

139:151396

TITLE:

Process for preparing nonracemic chiral alcohols using

ruthenium-based catalysts

INVENTOR(S):

Tucker, Charles Edward; Jiang, Qiongzhong

PATENT ASSIGNEE(S):

Dsm N.V., Neth.

SOURCE:

PCT Int. Appl., 34 pp.

CODEN: PIXXD2

DOCUMENT TYPE:

Patent English

LANGUAGE: FAMILY ACC. NUM. COUNT:

PATENT INFORMATION:

PATENT NO	•		KIN	D :	DATE		1	APPL	ICAT:	ION I	.00		D	ATE	
				-	- -										
WO 200306	L824		A 1		2003	0731	ī	WO 2	002-1	NL82	5		2	00212	213
W: A	E, AG,	AL,	AM,	ΑT,	ΑU,	ΑZ,	BA,	BB,	BG,	BR,	BY,	ΒZ,	CA,	CH,	CN,
C	CR,	CU,	CZ,	DE,	DK,	DM,	DZ,	EC,	EE,	ES,	FI,	GB,	GD,	GE,	GH,
GI	4, HR,	HU,	ID,	IL,	IN,	IS,	JP,	ΚE,	KG,	KP,	KR,	ΚZ,	LC,	LK,	LR,

LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, OM, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG US 2002-57826 US 2003144521 A1 20030731 20020124 US 6743921 B2 20040601 20030911 US 2002-153421 20020521 US 2003171213 A1 US 6806378 В2 20041019 **A**1 20041013 EP 2002-786244 20021213 EP 1465726 R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL, TR, BG, CZ, EE, SK A 20020124 PRIORITY APPLN. INFO.: US 2002-57826 US 2002-153421 A 20020521 W 20021213 WO 2002-NL825

OTHER SOURCE(S): MARPAT 139:151396

The present invention provides a catalyst system and a process for the preparation of a nonracemic chiral alc. by hydrogenation of a ketone using the catalyst system, wherein the catalyst system comprises ruthenium, a nonracemic chiral diphosphine ligand, an amino-thioether ligand, and a base. Acetophenone was hydrogenated to S-1-phenethanol using a catalyst system prepared from RuCl2(benzene)2, (R,R,R,R)-2,2'-bis-(diphenylphosphino)-1,1'-dicyclopentane, 2-(ethylthio)aniline, and tetramethyl-2-tertbutylguanidine.

133545-17-2, S-MeOBIPHEP ΙT

RL: CAT (Catalyst use); USES (Uses)

(process for preparing nonracemic chiral alcs. using ruthenium-based catalysts)

RN . 133545-17-2 CAPLUS

Phosphine, 1,1'-[(1S)-6,6'-dimethoxy[1,1'-biphenyl]-2,2'-diyl]bis[1,1-CN diphenyl- (CA INDEX NAME)

REFERENCE COUNT:

13 THERE ARE 13 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

CAPLUS COPYRIGHT 2007 ACS on STN ANSWER 108 OF 212

ACCESSION NUMBER:

2003:541308 CAPLUS

DOCUMENT NUMBER:

139:230354

TITLE:

Enantioselective Hydrogenation of Tetrasubstituted

Olefins of Cyclic β -(Acylamino)acrylates

Tang, Wenjun; Wu, Shulin; Zhang, Xumu

AUTHOR(S): CORPORATE SOURCE: Department of Chemistry, Pennsylvania State

University, University Park, PA, 16802, USA

SOURCE:

Journal of the American Chemical Society (2003),

125(32), 9570-9571

CODEN: JACSAT; ISSN: 0002-7863

PUBLISHER:

American Chemical Society

DOCUMENT TYPE:

Journal

LANGUAGE:

English

OTHER SOURCE(S):

CASREACT 139:230354

GΙ

Hydrogenation of a series of cyclic β -(acylamino)acrylates with a AB tetrasubstituted olefin structure has been accomplished successfully with the use of Ru catalysts with chiral biaryl ligands such as C3-TunaPhos (I), and up to over 99% ee's have been achieved. This methodol. provides an efficient catalytic method for the synthesis of both cis and trans chiral cyclic β -amino acid derivs.

ΙT 133545-17-2, (S)-MeO-BIPHEP

RL: CAT (Catalyst use); USES (Uses)

Ι

(stereoselective hydrogenation of cyclic β -(acylamino)acrylates with tetrasubstituted olefin structure)

133545-17-2 CAPLUS RN

Phosphine, 1,1'-[(1S)-6,6'-dimethoxy[1,1'-biphenyl]-2,2'-diyl]bis[1,1-CN diphenyl- (CA INDEX NAME)

REFERENCE COUNT:

42 THERE ARE 42 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

ANSWER 109 OF 212 CAPLUS COPYRIGHT 2007 ACS on STN

ACCESSION NUMBER:

2003:481969 CAPLUS

DOCUMENT NUMBER:

139:149694

TITLE:

Asymmetric Hydrosilylation of Aryl Ketones Catalyzed by Copper Hydride Complexed by Nonracemic Biphenyl

Bis-phosphine Ligands

AUTHOR(S): Lipshutz, Bruce H.; Noson, Kevin; Chrisman, Will;

Lower, Asher

CORPORATE SOURCE: Department of Chemistry and Biochemistry, University

of California, Santa Barbara, CA, 93106, USA

SOURCE: Journal of the American Chemical Society (2003),

125(29), 8779-8789

CODEN: JACSAT; ISSN: 0002-7863 American Chemical Society

PUBLISHER: American DOCUMENT TYPE: Journal

DOCUMENT TYPE: Journal LANGUAGE: English

OTHER SOURCE(S): CASREACT 139:149694

AB Copper hydride is an extremely reactive catalyst capable of effecting asym. hydrosilylations of aromatic ketones at temps. between -50 and -78°, when complexed by chiral diphosphines of the BIPHEP or the SEGPHOS series. Inexpensive silanes serve as stoichiometric sources of hydride. Substrate-to-ligand ratios exceeding 100,000:1 were achieved. The level of induction is usually in the >90% ee category. The nature of the reagent was investigated using spectroscopic and chemical means, although its exact structure remains unclear.

IT 352655-61-9 394248-45-4

RL: CAT (Catalyst use); USES (Uses)

(copper hydride-chiral diphosphine catalyzed asym. hydrosilylation and reduction of aromatic ketones to benzyl alcs.)

RN 352655-61-9 CAPLUS

CN Phosphine, [(1R)-6,6'-dimethoxy[1,1'-biphenyl]-2,2'-diyl]bis[bis[3,5-bis(1,1-dimethylethyl)-4-methoxyphenyl]- (9CI) (CA INDEX NAME)

RN 394248-45-4 CAPLUS

CN Phosphine, [(1R)-6,6'-dimethoxy[1,1'-biphenyl]-2,2'-diyl]bis[bis(3,5-dimethylphenyl)- (9CI) (CA INDEX NAME)

REFERENCE COUNT:

THERE ARE 69 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L3 ANSWER 110 OF 212 CAPLUS COPYRIGHT 2007 ACS on STN

ACCESSION NUMBER:

2003:307851 CAPLUS

DOCUMENT NUMBER:

139:69492

TITLE:

The First Highly Enantioselective Homogeneously

Catalyzed Asymmetric Reductive Amination: Synthesis of

 α -N-Benzylamino Acids

AUTHOR(S):

Kadyrov, Renat; Riermeier, Thomas H.; Dingerdissen,

Uwe; Tararov, Vitali; Boerner, Armin

CORPORATE SOURCE:

Project House Catalysis, Degussa AG, Frankfurt/Main,

D-65926, Germany

SOURCE:

Journal of Organic Chemistry (2003), 68(10), 4067-4070

CODEN: JOCEAH; ISSN: 0022-3263

PUBLISHER:

American Chemical Society

DOCUMENT TYPE:

Journal

LANGUAGE:

English

OTHER SOURCE(S):

CASREACT 139:69492

AB High-throughput screening of a library of 96 chiral phosphine ligands for two types of Rh(I) complexes was used to identify homogeneous catalysts for the highly enantioselective reductive amination of $\alpha\text{-keto}$ acids HOOCCOR (R = CH2Ph, Me, Ph, CH2CH2CO2H, CH2CO2H, CH2CH2Ph, CH2CHMe2, CH2CMe3) by benzylamine. After optimization of the reaction conditions and scale-up with a cationic Rh-Deguphos [Deguphos = (3R,4R)-1-benzyl-3,4-bis(diphenylphosphino)pyrrolidine] catalyst, a range of chiral N-benzyl $\alpha\text{-amino}$ acids PhCH2NHCH(R)CO2H was produced in good yields with as high as 98% enantiomeric excess.

IT 133545-16-1 133545-24-1

RL: CAT (Catalyst use); USES (Uses)

(screening of chiral phosphine ligands for rhodium catalyst for asym. reductive amination of keto acids with benzylamine)

RN 133545-16-1 CAPLUS

RN 133545-24-1 CAPLUS

Phosphine, (6,6'-dimethoxy[1,1'-biphenyl]-2,2'-diyl)bis[bis(4-methylphenyl)-, (R)- (9CI) (CA INDEX NAME) CN

PAGE 1-A

PAGE 2-A

REFERENCE COUNT:

THERE ARE 28 CITED REFERENCES AVAILABLE FOR THIS 28 RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L3

ANSWER 111 OF 212 CAPLUS COPYRIGHT 2007 ACS on STN

ACCESSION NUMBER:

2003:292432 CAPLUS

DOCUMENT NUMBER:

139:36286

TITLE:

Highly Enantioselective Reductive Amination of Simple

Aryl Ketones Catalyzed by Ir-f-Binaphane in the Presence of Titanium(IV) Isopropoxide and Iodine

Chi, Yongxiang; Zhou, Yong-Gui; Zhang, Xumu Department of Chemistry, Pennsylvania State University, University Park, PA, 16802, USA

Journal of Organic Chemistry (2003), 68(10), 4120-4122

CODEN: JOCEAH; ISSN: 0022-3263

PUBLISHER: American Chemical Society

DOCUMENT TYPE: Journal LANGUAGE: English

OTHER SOURCE(S): CASREACT 139:36286

GI

AUTHOR(S):

SOURCE:

CORPORATE SOURCE:

AB Secondary aralkyl amines are prepared in >99% yields and in 44-96% ee from p-anisidine and aryl alkyl ketones by treatment with titanium tetraisopropoxide, iodine, and an iridium catalyst prepared from [Ir(η 4-1,5-COD)Cl]2 and the nonracemic ligand f-Binaphane I. Deprotection of the N-(4-methoxyphenyl) moiety of N-(4-methoxyphenyl)-(R)- α -methylbenzylamine with ceric ammonium nitrate yields (R)- α -methylbenzylamine in 81% yield. Nonracemic aralkyl amines can be prepared in two steps from aralkyl ketones without competing reduction of the

ketone to the secondary alc.

IT 133545-16-1, (R)-MeO-BIPHEP

RL: CAT (Catalyst use); USES (Uses)
(alternative ligands tried for enantioselective iridium-catalyzed
reductive aminations of aryl ketones and p-anisidine in the presence of
iodine and titanium tetraisopropoxide)

RN 133545-16-1 CAPLUS

REFERENCE COUNT: 39 THERE ARE 39 CITED REFERENCES AVAILABLE FOR THIS

RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L3 ANSWER 112 OF 212 CAPLUS COPYRIGHT 2007 ACS on STN

ACCESSION NUMBER: 2003:244382 CAPLUS

DOCUMENT NUMBER: 139:197234

TITLE: Catalytic asymmetric alkylation in water in the

presence of surfactants

AUTHOR(S): Sinou, Denis; Rabeyrin, Cedric; Nguefack, Christelle

CORPORATE SOURCE: Fr.

SOURCE: Advanced Synthesis & Catalysis (2003), 345(3), 357-363

CODEN: ASCAF7; ISSN: 1615-4150

PUBLISHER: Wiley-VCH Verlag GmbH & Co. KGaA

DOCUMENT TYPE: Journal LANGUAGE: English

OTHER SOURCE(S): CASREACT 139:197234

Asym. palladium-catalyzed alkylation of 1,3-diphenyl-2-propenyl acetate with di-Me malonate occurs in water in the presence of surfactants and a base. The efficiency and enantioselectivity of the coupling reaction depend strongly on the nature and the concentration of the surfactant. The highest yield and enantioselectivity (up to 91%) were obtained using Binap as the ligand in the presence of a cationic surfactant, while neutral or zwitterionic surfactants gave poorer results; anionic surfactants gave no reaction at all. The best results were obtained using Na2CO3, NaHCO3, or K2CO3, among the bases used. The highest enantioselectivities were obtained when the reaction was performed in the presence of chiral atropisomeric diphosphines such as Binap, Biphemp, or MeOBiphep. A supported cationic surfactant was also used successfully in this reaction, allowing easier separation of the product.

IT 133545-16-1

RL: CAT (Catalyst use); USES (Uses)
(asym. alkylation of 1,3-diphenyl-2-propenyl acetate with di-Me
malonate in water in presence of palladium-phosphine catalysts and
surfactants)

RN 133545-16-1 CAPLUS

REFERENCE COUNT:

44 THERE ARE 44 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L3 ANSWER 113 OF 212 CAPLUS COPYRIGHT 2007 ACS on STN

ACCESSION NUMBER:

2003:129914 CAPLUS

DOCUMENT NUMBER:

139:84781

TITLE:

Enantioselective hydrogenation of $\beta\text{-keto}$ esters

using chiral diphosphine-ruthenium complexes:

Optimization for academic and industrial purposes and

synthetic applications

AUTHOR(S):

SOURCE:

Ratovelomanana-Vidal, V.; Girard, C.; Touati, R.; Tranchier, J. P.; Ben Hassine, B.; Genet, J. P. Laboratoire de Synthese Selective Organique et Produits Naturels (UMR 7573 CNRS), Ecole Nationale Supericure de Chimie de Paris, Paris, 75005, Fr.

CORPORATE SOURCE:

Advanced Synthesis & Catalysis (2003), 345(1+2),

261-274

CODEN: ASCAF7; ISSN: 1615-4150 Wiley-VCH Verlag GmbH & Co. KGaA

DOCUMENT TYPE:

Journal

LANGUAGE:

PUBLISHER:

English

OTHER SOURCE(S):

CASREACT 139:84781

AB Enantioselective hydrogenation using chiral complexes between atropisomeric diphosphines and ruthenium is a powerful tool for producing chiral compds. Using a simple and straightforward in situ catalyst preparation, the conditions were optimized using mol. hydrogen. This led to the best conditions and the lowest catalytic ratio required for the pressure used. Hydrogenation of various β -keto esters was efficiently performed at atmospheric and higher pressures, leading to the use

o,f

very low catalyst-substrate ratios up to 1/20,000. Asym. hydrogenations were used in key-steps towards the total synthesis of corynomycolic acid, Duloxetine and Fluoxetine.

IT 133545-16-1, R-MeO-BIPHEP 133545-17-2, S-MeO-BIPHEP RL: CAT (Catalyst use); USES (Uses)

(enantioselective hydrogenation of β -keto esters using chiral diphosphine-ruthenium complexes)

RN 133545-16-1 CAPLUS

RN 133545-17-2 CAPLUS

CN Phosphine, 1,1'-[(1S)-6,6'-dimethoxy[1,1'-biphenyl]-2,2'-diyl]bis[1,1-diphenyl- (CA INDEX NAME)

REFERENCE COUNT:

119 THERE ARE 119 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE REFORMAT

L3 ANSWER 114 OF 212 CAPLUS COPYRIGHT 2007 ACS on STN

ACCESSION NUMBER:

2003:129897 CAPLUS

DOCUMENT NUMBER:

CORPORATE SOURCE:

139:116947

TITLE:

A novel class of ferrocenyl-aryl-based diphosphine ligands for Rh- and Ru-catalysed enantioselective

hydrogenation

AUTHOR(S):

Sturm, Thomas; Weissensteiner, Walter; Spindler, Felix Institute of Organic Chemistry, University of Vienna,

Vienna, 1090, Austria

SOURCE:

Advanced Synthesis & Catalysis (2003), 345(1+2),

160-164

CODEN: ASCAF7; ISSN: 1615-4150

PUBLISHER:

Wiley-VCH Verlag GmbH & Co. KGaA

DOCUMENT TYPE: LANGUAGE:

Journal English

OTHER SOURCE(S):

CASREACT 139:116947

AB A series of diphosphines of the novel Walphos ligand family all based on a phenylferrocenylethyl backbone were synthesized in a four-step sequence. In the rhodium- or ruthenium-catalyzed asym. hydrogenation of olefins and ketones enantioselectivities of up to 95% and 97%, resp., were obtained. A 2-isopropylcinnamic acid derivative of industrial interest was hydrogenated

in 95% ee and with turnover nos. of > 5000.

IT 133545-16-1

RL: CAT (Catalyst use); USES (Uses)

(preparation of ferrocenyl-aryl-based diphosphine ligands for catalyzed enantioselective hydrogenation of substituted acrylic acid to saturated acid as potential intermediate for renin inhibitor SPP 100)

RN133545-16-1 CAPLUS

Phosphine, 1,1'-[(1R)-6,6'-dimethoxy[1,1'-biphenyl]-2,2'-diyl]bis[1,1-CN diphenyl- (CA INDEX NAME)

20 THERE ARE 20 CITED REFERENCES AVAILABLE FOR THIS REFERENCE COUNT:

RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

CAPLUS COPYRIGHT 2007 ACS on STN ANSWER 115 OF 212

2003:93074 CAPLUS ACCESSION NUMBER:

DOCUMENT NUMBER: 138:153227

TITLE:

Preparation of amines via catalytic hydrogenation of

aminals and related compounds

PATENT ASSIGNEE(S):

SOURCE:

Degussa AG, Germany Ger. Offen., 22 pp.

CODEN: GWXXBX

DOCUMENT TYPE:

Patent

LANGUAGE:

German

FAMILY ACC. NUM. COUNT:

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
DE 10133782	A1	20030206	DE 2001-10133782	20010716
PRIORITY APPLN. INFO.:			DE 2001-10133782	20010716
OTHER SOURCE(S):	CASRE	ACT 138:1532	27; MARPAT 138:153227	
GI				

A process for the preparation of title compds. I via catalytic hydrogenation of AΒ aminals and related compds. II [Y = O, N] with the proviso that when Y = O,

then R5 or R6 = free pair of electrons; R1, R2, R3, R4, R5, R6 = H, alkyl, alkenyl, etc.] is disclosed. For example, a mixture of phenylmethane III (5.0 mmol), [Rh(DPOE)COD]BF4 (0.01 mmol) in methanol (10 mL) was stirred under hydrogen gas (52 bar) for 1.5 h. Evaporation of the solvent afforded N-benzylpiperidine in quant. yield. Approx. 17-specific examples of compds. I were prepared

IT 133545-16-1 133545-24-1

RL: RGT (Reagent); RACT (Reactant or reagent)
(preparation of amines via catalytic hydrogenation of aminals and related compds.)

RN 133545-16-1 CAPLUS

CN Phosphine, 1,1'-[(1R)-6,6'-dimethoxy[1,1'-biphenyl]-2,2'-diyl]bis[1,1-diphenyl- (CA INDEX NAME)

RN 133545-24-1 CAPLUS

CN Phosphine, (6,6'-dimethoxy[1,1'-biphenyl]-2,2'-diyl)bis[bis(4-methylphenyl)-, (R)- (9CI) (CA INDEX NAME)

PAGE 1-A

Me

ANSWER 116 OF 212 CAPLUS COPYRIGHT 2007 ACS on STN 2002:980764 CAPLUS ACCESSION NUMBER: DOCUMENT NUMBER: 138:376639 TITLE: (R)-(6,6'-Dihydroxybiphenyl-2,2'diyl)bis(diphenylphosphine oxide) methanol solvate AUTHOR(S): Qiu, Li Qin; Qi, Jian Ying; Ji, Jian Xin; Zhou, Zhong Yuan; Yeung, Chi Hung; Choi, Michael C. K.; Chan, Albert S. C. Open Laboratory of Chirotechnology of the Institute of CORPORATE SOURCE: Molecular Technology for Drug Discovery and Synthesis and Department of Applied Biology and Chemical Technology, Hong Kong Polytechnic University, Hong Kong, Peop. Rep. China Acta Crystallographica, Section C: Crystal Structure SOURCE: Communications (2003), C59(1), o33-o35 CODEN: ACSCEE; ISSN: 0108-2701 PUBLISHER: Blackwell Munksgaard DOCUMENT TYPE: Journal English LANGUAGE: AB The title compound, C36H28O4P2 CH4O, was synthesized directly from the methoxy analog. The crystal structure shows that one OH group interacts with an O atom of a phosphine oxide group in an adjacent mol., while the other OH group complexes with the MeOH solvent mol. via intermol. H bonds. An O atom of one phosphine oxide group interacts with the hydroxy H atom of MeOH via a H bond. There are intra- and intermol. π - π interactions between the Ph rings. All these interactions gave supramol. chiral parallelogram channels via self-assembly. Crystallog. data are given. 524711-76-0P, (R)-(6,6'-Dihydroxybiphenyl-2,2'-IT diyl)bis(diphenylphosphine oxide) methanol solvate (1:1) RL: PRP (Properties); SPN (Synthetic preparation); PREP (Preparation) (crystal structure of) RN 524711-76-0 CAPLUS [1,1'-Biphenyl]-2,2'-diol, 6,6'-bis(diphenylphosphinyl)-, (1R)-, compd. with methanol (1:1) (9CI) (CA INDEX NAME)

CM 1

CRN 524711-75-9 CMF C36 H28 O4 P2

CM 2

CRN 67-56-1 CMF C H4 O

нзс-он

IT 133577-82-9, (R)-(6,6'-Dimethoxybiphenyl-2,2'-

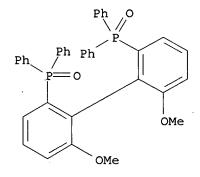
diyl)bis(diphenylphosphine oxide)

RL: RCT (Reactant); RACT (Reactant or reagent)

(demethoxylation using tribromoboron of)

RN 133577-82-9 CAPLUS

CN Phosphine oxide, (6,6'-dimethoxy[1,1'-biphenyl]-2,2'-diyl)bis[diphenyl-, (1R)- (9CI) (CA INDEX NAME)



REFERENCE COUNT: 9 THERE ARE 9 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L3 ANSWER 117 OF 212 CAPLUS COPYRIGHT 2007 ACS on STN

ACCESSION NUMBER:

2002:876328 CAPLUS

DOCUMENT NUMBER:

138:287465

TITLE:

Potassium organotrifluoroborates in rhodium-catalyzed

asymmetric 1,4-additions to enones

AUTHOR(S):

Pucheault, Mathieu; Darses, Sylvain; Genet,

Jean-Pierre

CORPORATE SOURCE:

Laboratoire de Synthese Selective Organique (UMR 7573, CNRS), Ecole Nationale Superieure de Chimie de Paris,

Paris, 75231/05, Fr.

SOURCE:

European Journal of Organic Chemistry (2002), (21),

3552-3557

CODEN: EJOCFK; ISSN: 1434-193X

Wiley-VCH Verlag GmbH & Co. KGaA

DOCUMENT TYPE: Journal LANGUAGE: English

OTHER SOURCE(S): CASREACT 138:287465

AB Potassium organotrifluoroborates, highly stable organoboron derivs., participate in asym. 1,4-addns. to enones. This reaction, catalyzed by cationic rhodium complexes chelated with BINAP, MeO-biphep, or Josiphos ligand, affords 1,4-adducts with high yields and enantioselectivities of up to 99%. Careful study of the reaction parameters shows the high sensitivity of the reaction to temperature, solvent, and the amount of water cosolvent. The 1,4-addition of potassium trifluorophenylborate to 2-cyclohexen-1-one in the presence of bis[(1,2,5,6-η)-1,5-cyclooctadiene]rhodium hexafluorophosphate(1-) and (1R)-[1,1'-binaphthalene]-2,2'-diylbis[diphenylphosphine] [(R)-BINAP] gave (+)-(3R)-3-Phenylcyclohexanone in 98% enantiomeric excess and in 99% yield.

IT 133545-16-1 145264-61-5 505032-20-2

RL: CAT (Catalyst use); USES (Uses) (potassium organotrifluoroborates in rhodium-catalyzed asym. addition to enones)

RN 133545-16-1 CAPLUS

CN Phosphine, 1,1'-[(1R)-6,6'-dimethoxy[1,1'-biphenyl]-2,2'-diyl]bis[1,1-diphenyl- (CA INDEX NAME)

PUBLISHER:

RN 145264-61-5 CAPLUS

CN Phosphine, [(1R)-6,6'-dimethoxy[1,1'-biphenyl]-2,2'-diyl]bis[di-3-furanyl-(9CI) (CA INDEX NAME)

505032-20-2 CAPLUS RN

Benzenamine, 4,4',4'',4'''-[[(1R)-6,6'-dimethoxy[1,1'-biphenyl]-2,2'-CN diyl]diphosphinidyne]tetrakis[N,N-dimethyl- (9CI) (CA INDEX NAME)

REFERENCE COUNT:

THERE ARE 41 CITED REFERENCES AVAILABLE FOR THIS 41 RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

ANSWER 118 OF 212 CAPLUS COPYRIGHT 2007 ACS on STN

ACCESSION NUMBER:

2002:756468 CAPLUS

DOCUMENT NUMBER:

138:187577

TITLE:

Highly enantioselective Rh-catalyzed intramolecular

Alder-Ene reactions for the syntheses of chiral

tetrahydrofurans

AUTHOR(S):

Lei, Aiwen; He, Minsheng; Wu, Shulin; Zhang, Xumu

CORPORATE SOURCE:

Department of Chemistry, The Pennsylvania State

University, University Park, PA, 16802, USA Angewandte Chemie, International Edition (2002),

41(18), 3457-3460

CODEN: ACIEF5; ISSN: 1433-7851

PUBLISHER:

Wiley-VCH Verlag GmbH & Co. KGaA

DOCUMENT TYPE:

Journal

LANGUAGE:

SOURCE:

English

OTHER SOURCE(S):

CASREACT 138:187577

Over 99% ee was obtained for all the tested substrates in a Rh-catalyzed Alder-ene reaction. Simply mixing air-stable, com. available [[Rh(cod)Cl]2] (cod = 1,5-cyclopentadiene) and 2,2'bis(diphenylphosphanyl)-1,1'-binaphthyl (BINAP) at room temperature afforded functionalized and chiral tetrahydrofurans in high yields with high efficiency (turnover frequency: 1500 h-1). The catalyst loading was as low as 0.8 mol %.

133545-17-2, [(1S)-6,6'-Dimethoxy[1,1'-biphenyl]-2,2'-IT

divl]bis[diphenylphosphine]

RL: CAT (Catalyst use); USES (Uses)

(highly enantioselective rhodium-catalyzed intramol. Alder-ene reactions for synthesis of chiral tetrahydrofurans)

133545-17-2 CAPLUS RN

Phosphine, 1,1'-[(1S)-6,6'-dimethoxy[1,1'-biphenyl]-2,2'-diyl]bis[1,1-CN diphenyl- (CA INDEX NAME)



Ph₂P R MeO

REFERENCE COUNT:

THERE ARE 22 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L3 ANSWER 119 OF 212 CAPLUS COPYRIGHT 2007 ACS on STN

22

ACCESSION NUMBER:

2002:639817 CAPLUS

DOCUMENT NUMBER:

137:352484

TITLE:

New efficient copper fluoride-based catalyst for

enantioselective hydrosilylation of ketones in aerobic

conditions

AUTHOR(S):

·Courmarcel, James; Mostefai, Naouel; Sirol, Sabine;

Choppin, Sabine; Riant, Olivier

CORPORATE SOURCE:

Laboratoire de Chimie Organique et Medicinale,

Universite Catholique de Louvain, Louvain-la-Neuve,

B-1348, Belg.

SOURCE:

Israel Journal of Chemistry (2002), Volume Date 2001,

41(4), 231-240

CODEN: ISJCAT; ISSN: 0021-2148

PUBLISHER:

Laser Pages Publishing

DOCUMENT TYPE:

Journal

LANGUAGE:

English

OTHER SOURCE(S):

CASREACT 137:352484

AB A copper(II) fluoride-chiral diphosphines catalytic system was developed. The catalyst is efficient and selective for the hydrosilylation of several substituted or unsubstituted aromatic ketones with moderate to excellent enantioselectivity. An oxygen acceleration effect was observed, that is the basis for a practical synthetic protocol with a low amount of catalyst.

IT 133545-16-1

RL: CAT (Catalyst use); USES (Uses)

(catalyst ligand, chiral diphosphine; efficient enantioselective copper fluoride-chiral phosphine ligand catalyst system in asym.

hydrosilylation and reduction of ketones)

RN 133545-16-1 CAPLUS

CN Phosphine, 1,1'-[(1R)-6,6'-dimethoxy[1,1'-biphenyl]-2,2'-diyl]bis[1,1-diphenyl- (CA INDEX NAME)

REFERENCE COUNT:

47 THERE ARE 47 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

CAPLUS COPYRIGHT 2007 ACS on STN ANSWER 120 OF 212 L3 2002:591572 CAPLUS

ACCESSION NUMBER:

DOCUMENT NUMBER:

137:156425

TITLE:

Procedure for the production of non-chiral and

optically active hydroxy-containing organic compounds

INVENTOR(S): Arlt, Prof

PATENT ASSIGNEE(S):

SOURCE:

Bayer A.-G., Germany Ger. Offen., 8 pp.

CODEN: GWXXBX

DOCUMENT TYPE:

LANGUAGE:

Patent German

FAMILY ACC. NUM. COUNT:

PATENT INFORMATION:

F	PAT	ENT 1	. O <i>l</i>			KIN	D	DATE			APPL	ICAT	ION I	NO.		D	ATE	
· I	DE	1010	5104			A1	_	2002	0808		DE 2	001-	1010	5104		2	0010	205
C	CA	2442	165			A 1		2002	1003		CA 2	002-	2442	165		2	0020	125
V	WO 2002076997					A 1		2002	1003		WO 2	002-	EP80	8		2	0020	125
		W:	ΑE,	AG,	AL,	AM,	AT,	AU,	ΑZ,	BA,	BB,	BG,	BR,	BY,	ΒZ,	CA,	CH,	CN,
			co,	CR,	CU,	CZ,	DE,	DK,	DM,	DZ,	EC,	EE,	ES,	FΙ,	GB,	GD,	GE,	GH,
			GM,	HR,	HU,	ID,	IL,	IN,	IS,	JP,	KE,	KG,	KP,	KR,	ΚZ,	LC,	LK,	LR,
			LS,	LT,	LU,	LV,	MA,	MD,	MG,	MK,	MN,	MW,	MX,	MZ,	NO,	NZ,	OM,	PH,
												SL,						
			UA.	UG.	US,	UZ,	VN,	YU,	ZA,	ZM,	ZW,	AM,	AZ,	BY,	KG,	KZ,	MD,	RU,
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Non-chiral and in particular optically active alcs. are made from carbonyl compds. with hydrogen in presence of a catalyst containing a base and, optionally, a diamine, preferably produced when a catalyst is utilized that contains both a supported ruthenium (II) complex of bisphosphines and diamine ligands. This catalyst exhibits good selectivity and reactivity in continuous processes. Thus, reaction of 0.5 g (S)-6,6'-

dihydroxybiphenyl-2,2'-diylbis(diphenylphosphine) with 4 g TentaGel S-Br (reaction product of crosslinked polystyrene with polyethylene glycol having CH2CH2Br end groups) in DMF in the presence of NaH and reaction of 800 mg modified support with 53 mg bis(2-methallyl)(cycloocta-1,5diene)ruthenium(II), and hydrogenation of acetophenone in iso-PrOH in the presence of the resulting catalyst, (S)-1,1-bis(p-anisyl)-3-methyl-1,2diaminobutane, and KOH 6 h at 40° by 50 bar H gave 99% 1-phenylethanol containing 90% R-enantiomer.

IT 151395-62-9

RL: RCT (Reactant); RACT (Reactant or reagent) (catalyst precursor; production of nonchiral and optically active alcs. from carbonyl compds in presence of bases and supported ruthenium complex catalysts)

151395-62-9 CAPLUS RN

[1,1'-Biphenyl]-2,2'-diol, 6,6'-bis(diphenylphosphino)-, (1S)- (9CI) (CA CN INDEX NAME)

THERE ARE 8 CITED REFERENCES AVAILABLE FOR THIS REFERENCE COUNT:

RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

CAPLUS COPYRIGHT 2007 ACS on STN ANSWER 121 OF 212

ACCESSION NUMBER:

2002:552940 CAPLUS

DOCUMENT NUMBER:

138:39330

TITLE:

Synthesis of biologically active 1-

arylethylphosphonates

AUTHOR(S):

Gulyukina, N. S.; Dolgina, T. M.; Bondarenko, G. N.; Beletskaya, I. P.; Bondarenko, N. A.; Henry, J.-C.; Lavergne, D.; Ratovelomanana-Vidal, V.; Genet, J.-P.

CORPORATE SOURCE:

Lomonosov Moscow State University, Moscow, 119899,

Russia

SOURCE:

Russian Journal of Organic Chemistry (Translation of Zhurnal Organicheskoi Khimii) (2002), 38(4), 573-587

CODEN: RJOCEQ; ISSN: 1070-4280

PUBLISHER:

MAIK Nauka/Interperiodica Publishing

DOCUMENT TYPE:

Journal

LANGUAGE:

English

OTHER SOURCE(S):

CASREACT 138:39330

A convenient and inexpensive general preparation method for 1-arylethylphosphonic acids and their esters was developed involving in reduction of the corresponding 1-ethenylphosphonates by ammonium formate in the presence of palladium on carbon. A homogeneous enantioselective hydrogenation of 1-arylethenylphosphonic acids in the presence of chiral ruthenium catalysts provided optically active 1-arylethylphosphonic acids of enantiomeric purity up to 86%. The preliminary data on biol. activity testing of the 1-arylethylphosphoic acids synthesized evidence that some among the compds. obtained are low-toxic substances with the properties of immunosuppressors of the central type of action.

133545-16-1 145214-57-9 IT

RL: CAT (Catalyst use); USES (Uses)

(ruthenium catalyzed enantioselective hydrogenation of arylethenylphosphonic acid in presence of)

133545-16-1 CAPLUS RN

145214-57-9 CAPLUS RN

Phosphine, [(1R)-6,6'-dimethoxy[1,1'-biphenyl]-2,2'-diyl]bis[di-2-furanyl-CN (9CI) (CA INDEX NAME)

REFERENCE COUNT:

THERE ARE 71 CITED REFERENCES AVAILABLE FOR THIS 71. RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

CAPLUS COPYRIGHT 2007 ACS on STN ANSWER 122 OF 212

ACCESSION NUMBER:

2002:539679 CAPLUS

DOCUMENT NUMBER:

137:109204

TITLE:

Novel process for the synthesis of

5-(4-fluorophenyl)-1-[2-((2R, 4R)-4-hydroxy-6-oxotetrahydropyran-2-yl)-ethyl]-2-isopropyl-4-phenyl-1H-

pyrrole-3-carboxylic acid N-phenylamide

INVENTOR(S):

Butler, Donald Eugene; Dejong, Randall Lee; Nelson, Jade Douglas; Pamment, Michael Gerard; Stuk, Timothy

PATENT ASSIGNEE(S):

Warner-Lambert Company, USA

SOURCE:

PCT Int. Appl., 82 pp.

CODEN: PIXXD2

DOCUMENT TYPE:

Patent

LANGUAGE:

English

FAMILY ACC. NUM. COUNT:

PATENT INFORMATION:

PATENT	NO.		KINI)	DATE			APP	LICAT	ION 1	40.	- -	D -	ATE	
	2055519 2055519		A2		2002	0718		WO 2	2001-	IB272	29		2	0011	227
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US 647	2133026 6235		В2		2002	1105							_	0011	007
CA 243	6235 2064 8995 1016739 3917		A1		2002	0718		CA	2001-	2432	064		2	0011	227
CA 253	8995		A1		2002	0718		CA	2001-	1672	995		2	0011	221 227
BR 200	1016739		A		2003	1022		ED BK	2001-	2730	9 81		2	0011	227
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ни 200	302647	1, 11,	A2		2003	1128	,	HU	2003-	2647		•	2	0011	227
JP 200	4520351		Т		2004	0708		JP	2003- 2002-	5561	88		2	20011	227
RU 224	4714		C1		2005	0120		RU	2003-	1205	10		2	0011	227
CN 169	302647 4520351 4714 6129		Α		2005	1116		CN	2005-	1000	5601		2	20011	227
EP 172	4256		A2		2006	1122		EP	2006-	1200	52			20011	221
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	NL, P	T, SE,	TR,	AL	LT.	LV.	MK.	, RO), SI						
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CN 190						, o207	Pilt	CN	2006-	-1010	0633		2	20011	227
US 654	5153		B1		2003	30408		US	2002-	-1986	82		. 2	20020	718
US 200	3195353		A1		2003	31016			2003-					20030	
US 693	3393		B2		2005	0823									
ZA 200	3004684					10628			2003-					20030	
	3MN0061	1	A			0624			2003- 2004-					20030 20040	
нк 106		С.	A1			51223 50429			2004-					20040	
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	5239869		A1			51027			2005-					20050	419
US 718			В2			70227									
	7032662		A1		2007	70208	:		2006-					20061	
US 200	7032663		A1			70208			2006-					20061	
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* STRUCTURE DIAGRAM TOO LARGE FOR DISPLAY - AVAILABLE VIA OFFLINE PRINT *

An improved process for the preparation of 5-(4-fluorophenyl)-1-[2-((2R,4R)-4-fluorophenyl)]hydroxy-6-oxo-tetrahydropyran-2-yl)ethyl]-2-isopropyl-4-phenyl-1H-pyrrole-3-carboxylic acid phenylamide (I) was disclosed. Morpholine was condensed with Me cyanoacetate (MTBE, 55°, 12-18 h), the product reduced to the amine (MeOH, HCl, H2-Pt/C @ 50 psi, 24 h), converted from the hydrochloride to the phenylacetate salt, which was condensed with 2-[2-(4-fluorophenyl)-2-oxo-1-phenylethyl]-4-methyl-3-oxopentanoic acidphenylamide with removal of water (THF, 4-8 mesh 3Å ms, reflux, 24 h) to afford solid II. Et acetoacetate in THF was reacted with NaH at -20° (held at -10° 45 min) followed by n-BuLi at -18° (held at -4° for 90 min) followed by addition of II at -25° and held at -23° for 20 h yielding, after aqueous work-up, A-(CH2)2COCH2COCH2CO2Et (III). Reduction of III with a RuCl2(DMF)n[(+)-Cl-MeO-BIPHEP] complex (MeOH, 1M HBr, H2 @ 50 psi, 65°) to afford β , δ -dihydroxy ester IV in a 1:1.5 syn:anti with a \geq 98% enantiomeric excess at the δ -hydroxy position in favor of the (R)-configuration (4 diastereomers separated by HPLC; Chiralcel-OD-H). Cyclization/elimination of IV (MeOHaq, KOH, 85°; PhMe, HCl; Ac20, NEt3, DMAP) provides the 6-oxo-3, 6-2H-pyran V (98% ee). Treatment of V with BnOH, NaOH at -10° for 19 h followed by hydrogenation (PhMe, 20% Pd(OH)2/C, 50 psi, 50°, 16 h) provided VI as a white solid (anti:syn 99:1, enantiomeric excess at the pyran C5 of 99% favoring the (R)-configuration). Alternate methods for several steps were provided. Utilization of VI for the preparation of atorvastatin calcium was also exemplified. Reduction of β , δ -diketo esters reported herein is more stereoselective, can be executed at lower pressures and is more amendable to large-scale manufacturing than prior art examples. 133545-17-2D, BIPHEP, BINAP and TunaPhos ruthenium complexes IT RL: CAT (Catalyst use); USES (Uses) (stereoselective reduction of a $\beta, \delta\text{-diketo}$ ester leading to 5-(4-fluorophenyl)-1-[2-((2R,4R)-4-hydroxy-6-oxo-tetrahydropyran-2-yl)ethyl]-2-iso-Pr-4-Ph-1H-pyrrole-3-carboxylic acid N-phenylamide) RN 133545-17-2 CAPLUS Phosphine, 1,1'-[(1S)-6,6'-dimethoxy[1,1'-biphenyl]-2,2'-diyl]bis[1,1-CN diphenyl- (CA INDEX NAME)

IT 185913-97-7DP, BIPHEP, BINAP and TunaPhos ruthenium complexes
RL: CAT (Catalyst use); SPN (Synthetic preparation); PREP (Preparation);
USES (Uses)

(stereoselective reduction of a β, δ-diketo ester leading to
5-(4-fluorophenyl)-1-[2-((2R,4R)-4-hydroxy-6-oxo-tetrahydropyran-2-yl)ethyl]-2-iso-Pr-4-Ph-1H-pyrrole-3-carboxylic acid N-phenylamide)
RN 185913-97-7 CAPLUS
CN Phosphine, [(1R)-5,5'-dichloro-6,6'-dimethoxy[1,1'-biphenyl]-2,2'diyl]bis[diphenyl- (9CI) (CA INDEX NAME)

RN 185913-97-7 CAPLUS
CN Phosphine, [(1R)-5,5'-dichloro-6,6'-dimethoxy[1,1'-biphenyl]-2,2'-diyl]bis[diphenyl- (9CI) (CA INDEX NAME)

L3 ANSWER 123 OF 212 CAPLUS COPYRIGHT 2007 ACS on STN

ACCESSION NUMBER: 2002:478713 CAPLUS

DOCUMENT NUMBER: 137:370036

TITLE: Asymmetric palladium-catalyzed annulation of

benzene-1,2-diols and propargylic carbonates

AUTHOR(S): Labrosse, Jean-Robert; Lhoste, Paul; Sinou, Denis

CORPORATE SOURCE: Laboratoire de Synthese Asymetrique, associe au CNRS,

ESCPE Lyon, Universite Claude Bernard Lyon 1,

Villeurbanne, 69622, Fr.

SOURCE: European Journal of Organic Chemistry (2002), (12),

1966-1971

CODEN: EJOCFK; ISSN: 1434-193X

PUBLISHER: Wiley-VCH Verlag GmbH

DOCUMENT TYPE: Journal LANGUAGE: English

OTHER SOURCE(S): CASREACT 137:370036

AB The reaction of benzene-1,2-diol with various propargylic carbonates in the presence of a palladium catalyst and various chiral ligands afforded the corresponding 2-alkylidene-3-alkyl-2,3-dihydrobenzodioxins in quite good yields and enantioselectivities of up to 97%. The highest enantiomeric excesses were obtained using atropisomeric diphosphanes as the chiral ligands; when (2R,3R)-2,3-O-isopropylidene-2,3-dihydroxy-4-bis(diphenylphosphanyl)butane (Diop), (2S,4S)-2,4-

bis(diphenylphosphanyl)pentane (BDPP) and other ligands gave quite low enantioselectivities.

IT 133545-16-1

RL: CAT (Catalyst use); USES (Uses)

(ligand; asym. palladium-catalyzed annulation of benzene-1,2-diols and propargylic carbonates in presence of various chiral ligands for preparation of 2-alkylidene-3-alkyl-2,3-dihydrobenzodioxins)

RN 133545-16-1 CAPLUS

CN Phosphine, 1,1'-[(1R)-6,6'-dimethoxy[1,1'-biphenyl]-2,2'-diyl]bis[1,1-diphenyl- (CA INDEX NAME)

REFERENCE COUNT: 47 THERE ARE 47 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L3 ANSWER 124 OF 212 CAPLUS COPYRIGHT 2007 ACS on STN

ACCESSION NUMBER: 2002:364020 CAPLUS

DOCUMENT NUMBER: 136:369840

TITLE: Improved method for the preparation of enantiomerically pure (5,5'-dichloro-6,6'-

dimethoxybiphenyl-2,2'-diyl)-bis-(diphenylphosphine

oxide)

INVENTOR(S): Pohl, Torsten; Prinz, Thomas; Giffels, Guido; Sirges,

Wolfgram

PATENT ASSIGNEE(S): Bayer Aktiengesellschaft, Germany

SOURCE: Eur. Pat. Appl., 12 pp.

CODEN: EPXXDW

DOCUMENT TYPE:

LANGUAGE:

Patent German

FAMILY ACC. NUM. COUNT:

PATENT INFORMATION:

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
	EP 1205486	A1	20020515	EP 2001-126101	20011102
	EP 1205486	B1	20040211		
	R: AT, BE, CH	, DE, DK	, ES, FR,	GB, GR, IT, LI, LU, NL,	SE, MC, PT,
				CY, AL, TR	
	DE 10056310	A1	20020516	DE 2000-10056310	20001114
	AT 259371	${f T}$	20040215	AT 2001-126101	20011102
	ES 2215835	Т3	20041016	ES 2001-1126101	20011102
	JP 2002179693	Α	20020626	JP 2001-343031	20011108
	US 2002058814	A 1	20020516	US 2001-10176	20011113
	us 6489513	В2	20021203		
1	PRIORITY APPLN. INFO.:			DE 2000-10056310	A 20001114
•	INTONITI INTENIO		am 126 266	20.40	

OTHER SOURCE(S): CASREACT 136:369840

AB The preparation of title compound is described in four steps starting from 5-bromo-2-chloroanisole. Thus, phosphination of 5-bromo-2-chloroanisole with diphenylphosphinic chloride in presence of Mg in THF gave 82% (4-chloro-3-methoxyphenyl)diphenylphosphine oxide which on lithiation with LDA followed by iodination in THF gave 93.5% (4-chloro-2-iodo-3-methoxyphenyl)diphenylphosphine oxide. Copper-mediated coupling of (4-chloro-2-iodo-3-methoxyphenyl)diphenylphosphine oxide in PhMe followed by resolution with (+)-dibenzoyltartaric acid and reduction with HSiCl3 in xylene

gave enantiomerically pure title compound, (5,5'-dichloro-6,6'-dimethoxybiphenyl-2,2'-diyl)-bis-(diphenylphosphine oxide).

IT 185913-96-6P

RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)

(preparation and reduction of)

RN 185913-96-6 CAPLUS

CN Phosphine oxide, [(1R)-5,5'-dichloro-6,6'-dimethoxy[1,1'-biphenyl]-2,2'-diyl]bis[diphenyl- (9CI) (CA INDEX NAME)

IT 185836-54-8P

RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)

(preparation and resolution with dibenzoyltartaric acid)
185836-54-8 CAPLUS
Pharabire and 45 5'-dichloro-6 6'-dimethoxy[1.1'-biphenyl]-2.2

Phosphine oxide, (5,5'-dichloro-6,6'-dimethoxy[1,1'-biphenyl]-2,2'-diyl)bis[diphenyl- (9CI) (CA INDEX NAME)

RN

CN

RN 185913-95-5 CAPLUS

CN Phosphine oxide, [(1S)-5,5'-dichloro-6,6'-dimethoxy[1,1'-biphenyl]-2,2'-diyl]bis[diphenyl- (9CI) (CA INDEX NAME)

RN 185913-97-7 CAPLUS
CN Phosphine, [(1R)-5,5'-dichloro-6,6'-dimethoxy[1,1'-biphenyl]-2,2'-diyl]bis[diphenyl- (9CI) (CA INDEX NAME)

REFERENCE COUNT: 5 THERE ARE 5 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

ANSWER 125 OF 212 CAPLUS COPYRIGHT 2007 ACS on STN

2002:319014 CAPLUS ACCESSION NUMBER:

137:93384 DOCUMENT NUMBER:

Accelerating effect of asymmetric ligand in catalysis TITLE:

of copper(I) hydride complexes

AUTHOR(S):

SOURCE:

Sawamura, Masaya

CORPORATE SOURCE:

Grad. Sch. Sci., Hokkaido Univ., Japan Organometallic News (2002), (1), 15

CODEN: ORGNE8; ISSN: 0917-1274

PUBLISHER:

Kinki Kagaku Kyokai Yuki Kinzoku Bukai

DOCUMENT TYPE:

Journal; General Review

LANGUAGE:

Japanese

A review on accelerating effect of an optically active bidentate phosphine AΒ ligand in asym. hydrosilylation of ketone using a phosphine-Cu(I) complex catalyst.

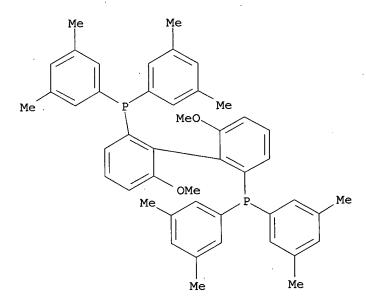
394248-45-4 IT

RL: CAT (Catalyst use); USES (Uses)

(accelerating effect of asym. ligand in catalysis of Cu(I) hydride complexes)

394248-45-4 CAPLUS RN

Phosphine, [(1R)-6,6'-dimethoxy[1,1'-biphenyl]-2,2'-diyl]bis[bis(3,5-CN dimethylphenyl) - (9CI) (CA INDEX NAME)



ANSWER 126 OF 212 CAPLUS COPYRIGHT 2007 ACS on STN

2002:183791 CAPLUS ACCESSION NUMBER:

136:232396

DOCUMENT NUMBER: TITLE:

Preparation of diphosphines as cocatalyst for

asymmetric reactions

INVENTOR(S):

Driessen-Hoelscher, Birgit; Kralik, Joachim; Ritzkopf, Inga; Steffens, Christian; Giffels, Guido; Dreisbach,

Claus; Prinz, Thomas; Lange, Walter

PATENT ASSIGNEE(S):

Bayer Aq, Germany

SOURCE:

Eur. Pat. Appl., 19 pp.

CODEN: EPXXDW

DOCUMENT TYPE:

Patent German

LANGUAGE: FAMILY ACC. NUM. COUNT:

PATENT INFORMATION:

PAT	CENT :	NO.			KINI)	DATE			APE	LICA	rion	NO.			DATE	
	1186609				A2 20020313			EP 2001-119799							20010829		
EP	1186				A 3		2002								a E	MC	שת
	R:	ΑT,	BE,	CH,				FR,	GB,	GI	R, IT	, LL.	, цυ,	ΝL,	SE	, MC,	PT,
		ΙE,	SI,	LT,	LV,	FI,	RO										
DE	1004	4793			A1		2002	0404		DE	2000	-100	44793			20000	
CA	2357	261			A1		2002	0311		CA	2001	-235	7261			20010	907
	2002	-	53		A1		2002	0509		US	2001	-948	826			20010	907
	6462		•		B2		2002	1008									
	2002		92		A		2002	0626		JΡ	2001	-272	410			20010	907
	2002				A1		2003	0306			2002					20020	815
	6566		10		B2		2003					-					
	2003		36		A1		2003			US	2003	-408	493			20030	407
• •	6844		30		B2		2005										
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PRIORITY	I APP	TIN .	TNEO	• •							2001					20010	
											2001					20020	
													750	200	AS	20020	013

OTHER SOURCE(S):

CASREACT 136:232396; MARPAT 136:232396

AB The preparation of diphosphines I (R = N, O, S heteroatom containing C6-14 aryl,

C1-6 alkyl, C1-6 alkoxy, and/or Me3Si group containing C6-13 heteroaryl, etc.; R1-R4 = H, C1-10 alkyl, C1-10 alkoxy, F, Cl, Br etc.), useful as cocatalyst for transition metal catalyzed asym. reactions, is described. Thus, preparation of (5,5'-dichloro-6,6'-dimethoxybiphenyl-2,2'-diyl)bis(bis-3,5-dimethylphenyl-phosphine) (II) is described in several steps starting from 4-chloro-3-methoxyphenol. Reaction of II with (cyclooctadiene)Ru(η 3-methallyl)2 gave a catalyst which was used for asym. hydrogenation of di-Me itaconate.

IT 377773-83-6P 403657-35-2P 403657-36-3P

403657-37-4P 403657-38-5P

RL: CAT (Catalyst use); RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent); USES (Uses)

(preparation and reaction with ruthenium complex in preparation of asym. hydrogenation catalyst)

RN 377773-83-6 CAPLUS

CN Phosphine, (5,5'-dichloro-6,6'-dimethoxy[1,1'-biphenyl]-2,2'-diyl)bis[diphenyl- (9CI) (CA INDEX NAME)

RN 403657-35-2 CAPLUS

Phosphine, [(1R)-5,5'-dichloro-6,6'-dimethoxy[1,1'-biphenyl]-2,2'-CN diyl]bis[di-2-furanyl- (9CI) (CA INDEX NAME)

RN

403657-36-3 CAPLUS
Phosphine, [(1R)-5,5'-dichloro-6,6'-dimethoxy[1,1'-biphenyl]-2,2'-diyl]bis[bis(4-fluorophenyl)- (9CI) (CA INDEX NAME) CN

RN403657-37-4 CAPLUS

Phosphine, [(1R)-5,5'-dichloro-6,6'-dimethoxy[1,1'-biphenyl]-2,2'-CN diyl]bis[bis(3,5-dimethylphenyl)- (9CI) (CA INDEX NAME)

RN 403657-38-5 CAPLUS

CN 1H-Pyrrole, 2,2',2'',2'''-[[(1R)-5,5'-dichloro-6,6'-dimethoxy[1,1'-biphenyl]-2,2'-diyl]diphosphinidyne]tetrakis[1-methyl- (9CI) (CA INDEX NAME)

L3 ANSWER 127 OF 212 CAPLUS COPYRIGHT 2007 ACS on STN

ACCESSION NUMBER:

2002:123018 CAPLUS

DOCUMENT NUMBER:

136:183935

TITLE:

Use of optically active acyloxy-substituted

diphosphinobiphenyls as ligands for catalyzed asym.

hydrogenation or isomerization

INVENTOR(S):

Bulliard, Michel; Laboue, Blandine; Roussiasse, Sonia

PATENT ASSIGNEE(S): PPG-Sipsy, Fr.

SOURCE:

PCT Int. Appl., 43 pp.

CODEN: PIXXD2

DOCUMENT TYPE:

Patent French

LANGUAGE:

: 1

FAMILY ACC. NUM. COUNT:

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
		-		
WO 2002012253	A1	20020214	WO 2001-FR2550	20010803

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W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN,
             CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH,
             GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR,
             LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, PL, PT,
             RO, RU, SD
         RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZW, AT, BE, CH, CY,
             DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, TR, BF,
             BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG
                                                                     20000803
                                            FR 2000-10269
     FR 2812638
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                                 20020208
                                 20030425
    FR 2812638
                          В1
                                             CA 2001-2417836
                                                                     20010803
                          A1
                                 20020214
    CA 2417836
                                                                     20010803
                                             AU 2001-82264
    AU 2001082264
                          A5
                                 20020218
                                                                     20010803
                                             EP 2001-960868
                                 20030502
    EP 1305324
                          A1
            AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT,
             IE, SI, LT, LV, FI, RO, MK, CY, AL, TR
                                                                     20010803
                                 20030624
                                             BR 2001-12970
     BR 2001012970
                          Α
                                                                     20010803
                                             JP 2002-518228
                          Т
                                 20040226
     JP 2004505985
                                             US 2003-356233
                                                                     20030131
                                 20031016
                          A1
     US 2003195369
                                 20040921
     US 6794525
                          B2
                                             FR 2000-10269
                                                                     20000803
                                                                  Α
PRIORITY APPLN. INFO .:
                                             WO 2001-FR2550
                                                                     20010803
                         CASREACT 136:183935; MARPAT 136:183935
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OTHER SOURCE(S):

GΙ

The invention concerns the use of chiral diphosphines ((R) - or AB (S)-2,2'-diphosphino-6,6'-bis(acyloxy)-1,1'-biphenyls, I; e.g. (R)-2,2'-bis(diphenylphosphino)-6,6'-diacetoxy-1,1'-biphenyl (1)) as optically active ligands for preparing diphosphine-metal complexes. The invention also concerns diphosphine-metal complexes (e.g. MxHyXzL2(Sv)p; M = Ru, Rh, Ir; X = Cl, Br, F, I; Sv = tertiary amine, ketone, ether; L = I; y = 0, 1; x = 1, 2; z = 1, 4; p = 0, 1; e.g. (RuBr2L)2 acetone, L = 11) and asym. catalysis methods using said complexes. More particularly, the invention concerns the use of said diphosphine-metal complexes in asym. hydrogenation or isomerization processes for the synthesis of organic products with desired chirality. In I: R and R1, identical or different, represent C1-10 saturated or not alkyl, C3-9 saturated or not cycloalkyl, C5-10 aryl, said groups being optionally substituted by halogen, hydroxy, C1-5 alkoxy, amino (NH2, NHR4, N(R4)2), sulfinyl, sulfonyl, with R4 representing alkyl, alkoxy or alkylcarbonyl, said groups alkyl, cycloalkyl, aryl including optionally one or several heteroatoms (O, N, S, Si), or also R and R1, together, represent C2-6 saturated or not substituted alkyl, C3-9 saturated or not cycloalkyl, C5-10 aryl, said groups cycloalkyl and aryl being optionally substituted by C1-5 alkyl, halogen, hydroxy, C1-5 alkoxy, amino (NH2, NHR4, NH(R4)2), sulfinyl, sulfonyl. R2 and R3, identical or different, represent C3-8 saturated or not cycloalkyl, C6-10 aryl, said groups being optionally substituted by halogen, hydroxy, C1-5 alkoxy, amino (NH2, NHR4, N(R4)2), sulfinyl, sulfonyl, said groups cycloalkyl, aryl including optionally one or several heteroatoms (O, N, S, Si), or also, R2 and R3 forming together C4-8 saturated or not carbocycle,

C6-10 aryl, said groups being optionally substituted by halogen, hydroxy, C1-5 alkoxy, amino (NH2, NHR4, N(R4)2), sulfinyl, sulfonyl, said carbocycle, aryl including optionally one or several heteroatoms (O, N, S, Si). For example, Et 4-chloroacetoacetate was asym. hydrogenated in quant. yield with 98.4 %ee using [RuLBr2] (L = (R)-2,2'bis(diphenylphosphino)-6,6'-bis(isobutanoyloxy)-1,1'-biphenyl; substrate:catalyst = 4000:1) in EtOH at 75°. 398127-98-5P 398127-99-6P 398128-00-2P ΙT 398128-01-3P 398128-02-4P 398128-03-5P 398128-04-6P 398128-05-7P RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent) (preparation and complexation with Group VIII metals for use as asym. catalysts for hydrogenation and isomerization) 398127-98-5 CAPLUS RN [1,1'-Biphenyl]-2,2'-diol, 6,6'-bis(diphenylphosphino)-, diacetate, (1R)-CN (9CI) (CA INDEX NAME)

RN 398127-99-6 CAPLUS
CN Propanoic acid, 2-methyl-, (1R)-6,6'-bis(diphenylphosphino)[1,1'-biphenyl]2,2'-diyl ester (9CI) (CA INDEX NAME)

RN 398128-00-2 CAPLUS
CN Propanoic acid, 2,2-dimethyl-, (1R)-6,6'-bis(diphenylphosphino)[1,1'-biphenyl]-2,2'-diyl ester (9CI) (CA INDEX NAME)

RN 398128-01-3 CAPLUS

CN Butanoic acid, 3-methyl-, (1R)-6,6'-bis(diphenylphosphino)[1,1'-biphenyl]-2,2'-diyl ester (9CI) (CA INDEX NAME)

RN 398128-02-4 CAPLUS

CN [1,1'-Biphenyl]-2,2'-diol, 6,6'-bis(diphenylphosphino)-, dibenzoate (ester), (1R)- (9CI) (CA INDEX NAME)

RN 398128-03-5 CAPLUS

CN Cyclohexanecarboxylic acid, (1R)-6,6'-bis(diphenylphosphino)[1,1'-biphenyl]-2,2'-diyl ester (9CI) (CA INDEX NAME)

RN 398128-04-6 CAPLUS

CN 2-Furancarboxylic acid, (1R)-6,6'-bis(diphenylphosphino)[1,1'-biphenyl]-2,2'-diyl ester (9CI) (CA INDEX NAME)

RN 398128-05-7 CAPLUS

CN Acetic acid, methoxy-, (1R)-6,6'-bis(diphenylphosphino)[1,1'-biphenyl]-2,2'-diyl ester (9CI) (CA INDEX NAME)

IT 151395-61-8P, (R)-2,2'-Bis(diphenylphosphino)-6,6'-dihydroxy-1,1'-

oiphenyl

RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)

(preparation and condensations with acyl chlorides)

RN 151395-61-8 CAPLUS

CN [1,1'-Biphenyl]-2,2'-diol, 6,6'-bis(diphenylphosphino)-, (1R)- (CA INDEX NAME)

REFERENCE COUNT: 5

5 THERE ARE 5 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L3 ANSWER 128 OF 212 CAPLUS COPYRIGHT 2007 ACS on STN

ACCESSION NUMBER: 2002:120928 CAPLUS

DOCUMENT NUMBER: 137:5913

TITLE: Palladium-catalyzed asymmetric alkylation of

2,3-alkadienyl phosphates. Synthesis of optically

active 2-(2,3-alkadienyl)malonates

AUTHOR(S): Imada, Yasushi; Ueno, Katsuya; Kutsuwa, Koji;

Murahashi, Shun-Ichi

CORPORATE SOURCE: Department of Chemistry, Graduate School of

Engineering Science, Osaka University, Osaka,

560-8531, Japan

SOURCE: Chemistry Letters (2002), (2), 140-141

CODEN: CMLTAG; ISSN: 0366-7022

PUBLISHER: Chemical Society of Japan

DOCUMENT TYPE: Journal LANGUAGE: English

OTHER SOURCE(S): CASREACT 137:5913

AB Asym. alkylation of 2,3-alkadienyl phosphates with soft carbon

nucleophiles proceeds efficiently in the presence of palladium complex catalysts bearing MeOBIPHEP or BINAP ligands to give optically active

functionalized allenes with up to 90% ee.

IT 133545-16-1

RL: CAT (Catalyst use); USES (Uses)

(palladium-catalyzed asym. alkylation of 2,3-alkadienyl phosphates in

preparation of optically active 2-(2,3-alkadienyl)malonates)

RN 133545-16-1 CAPLUS

CN Phosphine, 1,1'-[(1R)-6,6'-dimethoxy[1,1'-biphenyl]-2,2'-diyl]bis[1,1-

diphenyl- (CA INDEX NAME)

REFERENCE COUNT:

35 THERE ARE 35 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L3 ANSWER 129 OF 212 CAPLUS COPYRIGHT 2007 ACS on STN

ACCESSION NUMBER: 2002:96184 CAPLUS

DOCUMENT NUMBER: 136:294706

TITLE: Electron-Poor Benzonitriles as Labile, Stabilizing

Ligands in Asymmetric Catalysis

AUTHOR(S): Becker, Jennifer J.; Van Orden, Lori J.; White, Peter

S.; Gagne, Michel R.

CORPORATE SOURCE: Department of Chemistry CB #3290, University of North

Carolina, Chapel Hill, NC, 27599-3290, USA

SOURCE: Organic Letters (2002), 4(5), 727-730

CODEN: ORLEF7; ISSN: 1523-7060

PUBLISHER: American Chemical Society

DOCUMENT TYPE: Journal LANGUAGE: English

OTHER SOURCE(S): CASREACT 136:294706

AB A chiral palladium catalyst, [(S)-(MeObiphep)Pd(NCAr)2(SbF6)2, (S)-I], has been developed for a variety of asym. transformations. (S)-I is bench-stable and has activity comparable to that of the nitrile free Lewis

acid catalyst for Diels-Alder, hetero-Diels-Alder, and glyoxylate-ene reactions.

reactions.

IT 133545-17-2 133577-92-1

RL: RCT (Reactant); RACT (Reactant or reagent)
(electron-poor benzonitriles as labile, stabilizing ligands in asym.
catalysis)

RN 133545-17-2 CAPLUS

CN Phosphine, 1,1'-[(1S)-6,6'-dimethoxy[1,1'-biphenyl]-2,2'-diyl]bis[1,1-diphenyl- (CA INDEX NAME)

RN 133577-92-1 CAPLUS

CN Phosphine, (6,6'-dimethoxy[1,1'-biphenyl]-2,2'-diyl)bis[diphenyl- (9CI) (CA INDEX NAME)

REFERENCE COUNT: 23 THERE ARE 23 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L3 ANSWER 130 OF 212 CAPLUS COPYRIGHT 2007 ACS on STN

ACCESSION NUMBER: 2002:31391 CAPLUS

DOCUMENT NUMBER: 136:85662

TITLE: Preparation of (R)-2-alkyl-3-phenylpropionic acids

INVENTOR(S): Herold, Peter; Stutz, Stefan PATENT ASSIGNEE(S): Speedel Pharma A.-G., Switz.

SOURCE: PCT Int. Appl., 36 pp.

CODEN: PIXXD2

DOCUMENT TYPE: Patent LANGUAGE: English

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PA'	rent 1	NO.			KIND DATE			APPLICATION NO.						D.	DATE		
WO.	2002	0025	00		A1 20020110					WO 2	001-	CH39	7		20010626		
	W:	ΑE,	AG,	AL,	AM,	AT,	ΑU,	ΑZ,	BA,	BB,	ΒG,	BR,	BY,	ΒZ,	CA,	CH,	CN,
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		DE,	DK,	ES,	FI,	FR,	GB,	GR,	ΙE,	IT,	LU,	MC,	NL,	PT,	SE,	TR,	BF,
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	CA 2414839						2002										
AU	2001	0737	61		A 5		2002	0114		AU 2	001-	7376:	1		2	0010	626
EP	1296																
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		ΙE,	SI,	LT,	LV,	FI,	RO,	MK,	CY,	AL,	TR						
BR	2001	0121	46		Α		2003	0506		BR 2	001-	1214	6		2	0010	626
JP	2004	5026	63		T		2004	0129		JP 2	002-	5077	58		2	0010	626
US	2003	1396	25		A1		2003	0724		US 2	003-	3128	55		2	0030	102
US	6683	206			В2		2004	0127									
RIORIT	Y APP	LN.	INFO	.:						CH 2	000-	1317			A 2	0000	703
										WO 2					W 2	0010	626
THER SO	OURCE	(S):		•	CAS	REAC	T 13	6:85	662;	MAR	PAT	136:	8566.	2			

$$R^1$$
 R^3 R^2 R^3 R^2 R^2 R^2 R^2 R^2 R^2

Compds. of formula I, wherein R1 and R2 are, independently of one another, AB H, C1-C6 alkyl, C1-C6 halogen alkyl, C1-C6 alkoxy, C1-C6 alkoxy-C1-C6 alkyl, or C1-C6 alkoxy-C1-C6 alkyloxy, and R3 is C1-C6 alkyl, are obtainable in high yields by stereoselective addition of R3-substituted propionic acid esters to R1- and R3-substituted benzaldehydes of formula RCHO to form corresponding 3-R-3-hydroxy-2-R3-propionic acid esters, conversion of the OH group to a leaving group, subsequent regioselective elimination to form 3-R-2-R3-propenoic acid esters, and their hydrolysis to form corresponding propenoic carboxylic acids and their enantioselective hydrogenation, wherein R is II. Thus, Et isovalerate and 4-methoxy-3-(3-methoxypropoxy)benzaldehyde were reacted in the presence of diisopropylamine and hexyl lithium, reacted with acetic anhydride, and potassium tert-butylate was added to give a propenoic acid ester derivative, which was hydrogenated with [Rh(NBD)2]BF4 and (Rc,Sp)-1-[1-[Bis-(bis-3,5trifluoromethylphenyl)phosphino]ethyl]-2-(2-diphenylphosphinophenyl)ferroc

REFERENCE COUNT:

12 THERE ARE 12 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L3 ANSWER 131 OF 212 CAPLUS COPYRIGHT 2007 ACS on STN

ACCESSION NUMBER:

2002:31379 CAPLUS

DOCUMENT NUMBER:

136:85606

TITLE:

Process for the preparation of (R)-2-alkyl-3-phenyl-1-

propanols

INVENTOR(S):

Herold, Peter; Stutz, Stefan; Spindler, Felix Speedel Pharma Ag, Switz.

PATENT ASSIGNEE(S):

SOURCE:

PCT Int. Appl., 34 pp.

CODEN: PIXXD2

DOCUMENT TYPE:

LANGUAGE:

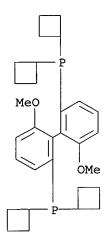
Patent English

FAMILY ACC. NUM. COUNT:

PATENT INFORMATION:

PATENT	KIND DATE			APPLICATION NO.						DATE						
WO 2002		A1 20020110			1	WO 2	001-0		20010626							
W:	ΑE,	AG,	AL,	AM,	AT,	AU,	AZ,	BA,	BB,	BG,	BR,	BY,	ΒZ,	CA,	CH,	CN,
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	HR,	HU,	ID,	ΙL,	IN,	IS,	JP,	ΚE,	KG,	ΚP,	KR,	ΚZ,	LC,	LK,	LR,	LS,
	LT,	LU,	LV,	MA,	MD,	MG,	MK,	MN,	MW,	MX,	MZ,	NO,	ΝZ,	PL,	PT,	RO,
	RU,	SD,	SE,	SG,	SI,	SK,	SL,	ТJ,	TM,	TR,	TT,	ΤZ,	UA,	UG,	US,	UZ,
•		ΥU,														
RW:	GH,	GM,	ΚE,	LS,	MW,	MZ,	SD,	SL,	SZ,	TZ,	ŪG,	ZW,	AT;	BE,	CH,	CY,
	DE,	DK,	ES,	FI,	FR,	GB,	GR,	ΙE,	IT,	LU,	MC,	NL,	PT,	SE,	TŔ,	BF,
	ВJ,	CF,	CG,	CI,	CM,	GA,	GN,	GW,	ML,	MR,	ΝE,	SN,	TD,	TG		

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20020110
                                            CA 2001-2414844
                                                                    20010626
     CA 2414844
                          Α1
                                            EP 2001-940046
                                                                    20010626
                                20030402
     EP 1296912
                          A1
                          В1
                                20060125
     EP 1296912
         R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT,
             IE, SI, LT, LV, FI, RO, MK, CY, AL, TR
                                20030513
                                            BR 2001-12128
                                                                    20010626
     BR 2001012128
                          Α
     JP 2004502656
                          Т
                                20040129
                                             JP 2002-507746
                                                                    20010626
     AT 316518
                                                                    20010626
                          Т
                                20060215
                                            AT 2001-940046
                                            TW 2001-90115928
                                                                    20010629
     TW 575537
                          В
                                20040211
                                            US 2003-312992
                                                                    20030103
     US 2004092766
                          A1
                                20040513
     US 6881868
                          B2
                                20050419
                                             CH 2000-1318
                                                                    20000703
PRIORITY APPLN. INFO.:
                                                                    20010626
                                            WO 2001-CH398
                         CASREACT 136:85606; MARPAT 136:85606
OTHER SOURCE(S):
     A process for the preparation of (R)-3(R1)-4(R2)-C6H3-CH2-CH(R3)CH2OH is
     disclosed [R1-2 = H, alkyl, haloalkyl, alkoxy, alkoxy-alkyl,
     alkoxy-alkoxy; R3 = alkyl; I]. The multi-step process is illustrated by
     the addition of the lithium-enolate of Et isovalerate to 4-methoxy-3-(3-
     methoxypropoxy)benzaldehyde (LDA, THF, -20°C, 40 min) resulting in
     the carbinol isolated in 72% yield. Acylation/elimination (THF, DMAP,
     Ac2O, 0°C; THF, KOBu-t, -2°C) afforded the
     \alpha,\beta-unsatd. ester in 93% yield. The ester was reduced to the
     allylic alc. (PhMe, DIBAL, -20°C, 1 h) and hydrogenated (PhMe,
     [Rh(norbornadiene)Cl]2, (1R)-(4,4',5,5',6,6'-hexamethoxy[1,1'-biphenyl]-
     2,2'-diyl)bis[diphenylphosphine], 20 bar H2, 30°C, 18 h) to I (R1 =
     MeO(CH2)30, R2 = MeO, R3 = i-Pr) in 92% yield for 2 steps with 95% ee.
IT
     150971-49-6
     RL: CAT (Catalyst use); USES (Uses)
        (process for the preparation of (R)-2-alkyl-3-phenyl-1-propanols)
     150971-49-6 CAPLUS
RN
     Phosphine, [(1R)-6,6'-dimethoxy[1,1'-biphenyl]-2,2'-diyl]bis[dicyclobutyl-
CN
     (9CI) (CA INDEX NAME)
```



REFERENCE COUNT: 34 THERE ARE 34 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L3 ANSWER 132 OF 212 CAPLUS COPYRIGHT 2007 ACS on STN

ACCESSION NUMBER:

2001:912204 CAPLUS

DOCUMENT NUMBER:

136:150965

TITLE:

Ligand-Accelerated, Copper-Catalyzed Asymmetric

Hydrosilylations of Aryl Ketones

AUTHOR(S):

Lipshutz, Bruce H.; Noson, Kevin; Chrisman, Will Department of Chemistry Biochemistry, University of

CORPORATE SOURCE:

California, Santa Barbara, CA, 93106, USA

Journal of the American Chemical Society (2001),

123(51), 12917-12918

CODEN: JACSAT; ISSN: 0002-7863

American Chemical Society

PUBLISHER: American
DOCUMENT TYPE: Journal
LANGUAGE: English

OTHER SOURCE(S): CASREACT 136:150965

GI

SOURCE:

AB A reagent prepared in situ from catalytic amts. of CuH and the ligand I catalyzed the asym. hydrosilylation of aromatic ketones by polymethylhydrosiloxane to give the alcs. in high ee.

IT 394248-45-4

RL: CAT (Catalyst use); USES (Uses) (copper-catalyzed asym. hydrosilylation of aromatic ketones by polymethylhydrosiloxane)

RN 394248-45-4 CAPLUS

CN Phosphine, [(1R)-6,6'-dimethoxy[1,1'-biphenyl]-2,2'-diyl]bis[bis(3,5-dimethylphenyl)- (9CI) (CA INDEX NAME)

L3 ANSWER 133 OF 212 CAPLUS COPYRIGHT 2007 ACS on STN

ACCESSION NUMBER: 2001:885409 CAPLUS

DOCUMENT NUMBER: 136:37900

TITLE: Method for the preparation of optically active

trimethyllactic acid and its esters

INVENTOR(S): Sirges, Wolfram; Dreisbach, Claus

PATENT ASSIGNEE(S): Bayer A.-G., Germany SOURCE: Eur. Pat. Appl., 19 pp.

CODEN: EPXXDW

DOCUMENT TYPE: Patent LANGUAGE: German

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE			
EP 1160237	A2	20011205	EP 2001-111927	20010518			
EP 1160237 R: AT, BE, CH,	A3 DE, DK	20031112 , ES, FR, GB,	, GR, IT, LI, LU, NL,	SE, MC, PT,			
IE, SI, LT,	LV, FI	, RO					
DE 10027154	Al	20011213	DE 2000-10027154	20000531			
US 2002035271	A 1	20020321	US 2001-864906	20010524			
US 6583312	B2	20030624	•				
JP 2002003441	Α	20020109	JP 2001-160426	20010529			
PRIORITY APPLN. INFO.:			DE 2000-10027154	A 20000531			
OTHER SOURCE(S):	CASREA	CT 136:37900;	; MARPAT 136:37900	,			

AB A procedure for the preparation of optically active trimethyllactic acid and its esters, Me3CCH(OH)CO2R1 [R1 = H, (un)substituted C1-20-alkyl (especially Me,

Et, CH2Et, CHMe2, Bu, Me2CHCH2, EtCHMe, pentyl, neopentyl, isopentyl), C6-10-aryl (especially Ph or naphthyl), C7-15-aralkyl (especially CH2Ph), C2-12-heteroaryl (especially 2-, 3-furyl, 2-, 3-pyrrolyl); (I)], through enantioselective hydrogenation of trimethylpyroracemic acid and its esters, Me3CC(:0)CO2R1 (II), in the presence of catalysts (in particular, Ru, Rh and Ir complexes), is characterized by the rare earth metal complex catalyst containing an optically active bisphosphine ligand, e.g., III (R2 = Ph, C6H4Me-3, C6H4Me-4, C6H3Me2-3,5, C6H4OMe-4, 3,5-dimethyl-4methoxyphenyl, cyclohexyl, cyclopentyl), IV (R3 = Ph, C6H4Me-4, C6H3Me2-3,5, C6H4OMe-4, 3,5-dimethyl-4-methoxyphenyl, cyclohexyl), V (R3 = Ph, C6H4Me-4, C6H3Me2-3,5, C6H4OMe-4, 3,5-dimethyl-4-methoxyphenyl, cyclohexyl; R4 = H, Me, OMe; R5 = H, Me, OMe, C1; R6 = Me, OMe, CF3) and VI (R7 = Me, Et, CH2Et, CHMe2). Thus, I (R1 = Me), was prepared quant. (97.9% enantiomeric excess), via hydrogenation of II (R1 = Me) in MeOH/MeCOMe containing catalytic bis(2-methylallyl)(1,5cycloctadiene) ruthenium(III) and (R)-(+)-2, 2μ -bis(diphenylphosphino)-1, lu-binaphthyl. 133577-92-1D, (6,6'-Dimethoxybiphenyl-2,2'diyl)bis(diphenylphosphine), chiral 133577-93-2D, (5,5',6,6'-Tetramethoxybiphenyl-2,2'-diyl)bis(diphenylphosphine), chiral

IT 133577-92-1D, (6,6'-Dimethoxybiphenyl-2,2'diyl)bis(diphenylphosphine), chiral 133577-93-2D,
 (5,5',6,6'-Tetramethoxybiphenyl-2,2'-diyl)bis(diphenylphosphine), chiral
 133577-94-3D, (6,6'-Dimethoxybiphenyl-2,2'-diyl)bis[di(p tolyl)phosphine], chiral 185913-97-7, (+)-(5,5'-Dichloro-6,6' dimethoxybiphenyl-2,2'-yl)bis(diphenylphosphine) 377773-83-6D,
 (5,5'-Dichloro-6,6'-dimethoxybiphenyl-2,2'-diyl)bis(diphenylphosphine),
 chiral

RL: CAT (Catalyst use); USES (Uses)
(preparation of chiral trimethyllactic acid and its esters via
enantioselective catalytic hydrogenation of trimethylpyroracemic acid
and its esters)

RN 133577-92-1 CAPLUS

CN Phosphine, (6,6'-dimethoxy[1,1'-biphenyl]-2,2'-diyl)bis[diphenyl- (9CI) (CA INDEX NAME)

RN 133577-93-2 CAPLUS

CN Phosphine, (5,5',6,6'-tetramethoxy[1,1'-biphenyl]-2,2'-diyl)bis[diphenyl-(9CI) (CA INDEX NAME)

133577-94-3 CAPLUS RN

CN

Phosphine, (6,6'-dimethoxy[1,1'-biphenyl]-2,2'-diyl)bis[bis(4methylphenyl) - (9CI) (CA INDEX NAME)

PAGE 1-A

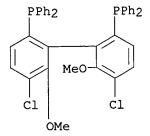
PAGE 2-A

RN

185913-97-7 CAPLUS
Phosphine, [(1R)-5,5'-dichloro-6,6'-dimethoxy[1,1'-biphenyl]-2,2'-diyl]bis[diphenyl- (9CI) (CA INDEX NAME) CN

377773-83-6 CAPLUS RN

Phosphine, (5,5'-dichloro-6,6'-dimethoxy[1,1'-biphenyl]-2,2'-CN diyl)bis[diphenyl- (9CI) (CA INDEX NAME)



CAPLUS COPYRIGHT 2007 ACS on STN L3 ANSWER 134 OF 212

ACCESSION NUMBER:

2001:880027 CAPLUS

DOCUMENT NUMBER:

136:166979

TITLE:

Disparate Roles of Chiral Ligands and Molecularly Imprinted Cavities in Asymmetric Catalysis and Chiral

Poisoning

AUTHOR(S):

Koh, Jeong Hwan; Larsen, Andrew O.; White, Peter S.;

Gagne, Michel R.

CORPORATE SOURCE:

Department of Chemistry, University of North Carolina,

Chapel Hill, NC, 27599-3290, USA

Organometallics (2002), 21(1), 7-9

CODEN: ORGND7; ISSN: 0276-7333 American Chemical Society

PUBLISHER:

SOURCE:

Journal DOCUMENT TYPE:

LANGUAGE:

English

Ι

OTHER SOURCE(S):

CASREACT 136:166979

GI

The activation of molecularly imprinted metal complexes generated Lewis AB acid catalysts, prepared via copolymn. of metallomonomers (I; X = Cl, X2 = O,O-dideprotonated (S)-, (R)-BINOL; Ar = p-C6H4C(CH3):CH2) with EDMA (ethylene dimethacrylate), for the ene reaction, each of which contains a chiral diphosphine ligand and a chiral BINOL-shaped cavity. Poisoning expts. with (R) - and (S) -BINAM (where (R) - and (S) -BINAM = (R) - and (S)-1,1'-binaphthyl-2,2'-diamine, resp.) indicated that while the chiral cavity can differentiate the chiral poisons, it is the chiral diphosphine ligand which controls the enantioselectivity of the ene product.

IT

RL: RCT (Reactant); RACT (Reactant or reagent) (lithium aluminum hydride reduction of)

145265-38-9 CAPLUS RN

Phosphonic acid, [(1S)-6,6'-dimethoxy[1,1'-biphenyl]-2,2'-diyl]bis-, CN tetraethyl ester (9CI) (CA INDEX NAME)

397862-54-3P IT

RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)

(preparation and Grignard reaction with (isopropenylphenyl) magnesium

chloride)

397862-54-3 CAPLUS RN

Phosphonous dichloride, [(1S)-6,6'-dimethoxy[1,1'-biphenyl]-2,2'-diyl]bis-CN

(CA INDEX NAME)

397862-53-2P IT

RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT

(Reactant or reagent)

(preparation and chlorination of)

397862-53-2 CAPLUS RN

Phosphine, [(1S)-6,6'-dimethoxy[1,1'-biphenyl]-2,2'-diyl]bis- (9CI) (CA CN

INDEX NAME)

IT 397862-55-4P

RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT

(Reactant or reagent) (preparation and reaction with platinum cyclooctadiene chloride complex)

397862-55-4 CAPLUS RN

Phosphine, [(1S)-6,6'-dimethoxy[1,1'-biphenyl]-2,2'-diyl]bis[bis[4-(1-CN methylethenyl)phenyl]- (9CI) (CA INDEX NAME)

REFERENCE COUNT: 22 THERE ARE 22 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L3 ANSWER 135 OF 212 CAPLUS COPYRIGHT 2007 ACS on STN

ACCESSION NUMBER:

2001:735912 CAPLUS

DOCUMENT NUMBER:

136:53819

TITLE:

A Simple Resolution Procedure Using the Staudinger

Reaction for the Preparation of P-Stereogenic

Phosphine Oxides

AUTHOR(S):

Andersen, Neil G.; Ramsden, Philip D.; Che, Daqing;

Parvez, Masood; Keay, Brian A.

CORPORATE SOURCE:

Department of Chemistry, University of Calgary,

Calgary, AB, T2N 1N4, Can.

SOURCE:

Journal of Organic Chemistry (2001), 66(22), 7478-7486

CODEN: JOCEAH; ISSN: 0022-3263

PUBLISHER:

American Chemical Society

DOCUMENT TYPE: LANGUAGE:

Journal English

OTHER SOURCE(S):

CASREACT 136:53819

The resolution of a variety of (±)-P-stereogenic phosphines is achieved by exploiting the Staudinger reaction of a (±)-phosphine with enantiopure (1S,2R)-O-(tert-butyldimethylsilyl)isobornyl-10-sulfonyl azide. The resulting mixts. of diastereomeric phosphinimines are generally separable by fractional crystallization or flash chromatog. Subsequent acid-catalyzed hydrolysis provides the corresponding optically pure phosphine oxides in high yields. The crystal and mol. structures of (RP)-[(1S,2R)-O-(tert-butyldimethylsilyl)isobornyl-10-sulfonamidyl]isopropylmethylphenylphosphin imine were determined by x-ray crystallog.

IT 382607-90-1P

RL: PEP (Physical, engineering or chemical process); PYP (Physical process); SPN (Synthetic preparation); PREP (Preparation); PROC (Process) (preparation by Staudinger reaction and separation from isomer and other coproducts)

RN 382607-90-1 CAPLUS

CN Bicyclo[2.2.1]heptane-1-methanesulfonamide, N,N'-[[(1S)-6,6'-dimethoxy[1,1'-biphenyl]-2,2'-diyl]bis(diphenylphosphoranylidyne)]bis[2-[[(1,1-dimethylethyl)dimethylsilyl]oxy]-7,7-dimethyl-, (1S,1'S,2R,2'R,4R,4'R)- (9CI) (CA INDEX NAME)

IT 133577-92-1, (\pm) -MeOBIPHEP

> RL: CPS (Chemical process); PEP (Physical, engineering or chemical process); RCT (Reactant); PROC (Process); RACT (Reactant or reagent) (resolution using Staudinger reaction)

RN133577-92-1 CAPLUS

Phosphine, (6,6'-dimethoxy[1,1'-biphenyl]-2,2'-diyl)bis[diphenyl- (9CI) CN (CA INDEX NAME)

REFERENCE COUNT: 61 THERE ARE 61 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

CAPLUS COPYRIGHT 2007 ACS on STN ANSWER 136 OF 212

ACCESSION NUMBER:

2001:709735 CAPLUS

DOCUMENT NUMBER:

135:272882

TITLE:

Preparation of piperidine and piperazine compounds for

use in the treatment of Alzheimer

INVENTOR(S):

Crameri, Yvo; Scalone, Michelangelo; Waldmeier, Pius;

Widmer, Ulrich

PATENT ASSIGNEE(S):

F. Hoffmann-La Roche A.-G., Switz.

SOURCE:

Eur. Pat. Appl., 34 pp.

CODEN: EPXXDW

DOCUMENT TYPE:

Patent English

LANGUAGE:

1

FAMILY ACC. NUM. COUNT:

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
EP 1136475	A1	20010926	EP 2001-105498	20010315
EP 1136475 R: AT. BE. CH.	B1 DE. DK	20040818 . ES. FR. GB	, GR, IT, LI, LU, NL,	SE, MC, PT,

IE, SI, LT,	LV, FI	, RO				
US 2001037026	A 1	20011101	US	2001-809691		20010315
US 6605723	B2	20030812				
AT 273953	${f T}$	20040915	ΑT	2001-105498		20010315
ES 2225330	Т3	20050316	ES	2001-1105498		20010315
CA 2341010	A1	20010922	CA	2001-2341010		20010319
IN 193610	A1	20040724	IN	2001-MA253		20010320
JP 2001270865	Α	20011002	JP	2001-82991		20010322
JP 3598277	B2	20041208				
CN 1315319	Α	20011003	CN	2001-111877		20010322
PRIORITY APPLN. INFO.:			EP	2000-106210	Α	20000322
OTHER SOURCE(S):	MARPAT	135:272882				
GT						

The title compds. I and II [R1-R4 = H, halo, hydroxy, amino, nitro, lower alkylsulfonylamido, acetamido; R5-R8 = H, lower alkyl, halogen, trifluoromethyl, lower alkoxy] were prepared I and II are NMDA (N-methyl-D-aspartate)-receptor-subtype selective blockers (no data), which have a key function in modulating neuronal activity and plasticity which makes them key players in mediating processes underlying development of CNS including learning and memory formation and function. E.g., (3S,4S)-4-benzylpiperidin-3-ol was prepared

IT 133545-17-2 150971-37-2 167709-31-1 362634-22-8 362634-28-4 362634-30-8 362634-32-0 362634-34-2 362634-37-5 RL: CAT (Catalyst use); USES (Uses)

(preparation of piperidine and piperazine compds. for use in the treatment of Alzheimer)

RN 133545-17-2 CAPLUS

CN Phosphine, 1,1'-[(1S)-6,6'-dimethoxy[1,1'-biphenyl]-2,2'-diyl]bis[1,1-diphenyl- (CA INDEX NAME)

RN 150971-37-2 CAPLUS

CN Phosphine, [(1S)-6,6'-dimethoxy[1,1'-biphenyl]-2,2'-diyl]bis[bis[3,5-bis(trimethylsilyl)phenyl]- (9CI) (CA INDEX NAME)

PAGE 1-A

RN 167709-31-1 CAPLUS

CN

Phosphine, 1,1'-[(1S)-6,6'-dimethoxy[1,1'-biphenyl]-2,2'-diyl]bis[1,1-bis[3,5-bis(1,1-dimethylethyl)phenyl]- (CA INDEX NAME)

RN 362634-22-8 CAPLUS
CN Phosphine, 1,1'-[(1S)-6,6'-dimethoxy[1,1'-biphenyl]-2,2'-diyl]bis[1,1-bis(3,5-dimethylphenyl)- (CA INDEX NAME)

RN

CN Phosphine, [(1S)-6,6'-dimethoxy[1,1'-biphenyl]-2,2'-diyl]bis[bis[3,5-bis(1-methylethyl)phenyl]- (9CI) (CA INDEX NAME)

RN 362634-30-8 CAPLUS

CN Phosphine, [(1S)-6,6'-dimethoxy[1,1'-biphenyl]-2,2'-diyl]bis[bis[3,5-bis(trifluoromethyl)phenyl]- (9CI) (CA INDEX NAME)

RN 362634-32-0 CAPLUS

CN Phosphine, [(1S)-6,6'-dimethoxy[1,1'-biphenyl]-2,2'-diyl]bis[bis(3,5-diethylphenyl)- (9CI) (CA INDEX NAME)

362634-34-2 CAPLUS RN

Phosphine, [(1S)-6,6'-dimethoxy[1,1'-biphenyl]-2,2'-diyl]bis[bis(3-methylphenyl)- (9CI) (CA INDEX NAME) CN

RN362634-37-5 CAPLUS

Phosphine, [(1S)-6,6'-dimethoxy[1,1'-biphenyl]-2,2'-diyl]bis[bis[4-methoxy-3,5-bis(1-methylethyl)phenyl]- (9CI) (CA INDEX NAME) CN

THERE ARE 4 CITED REFERENCES AVAILABLE FOR THIS REFERENCE COUNT: 4 RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

CAPLUS COPYRIGHT 2007 ACS on STN ANSWER 137 OF 212

2001:642720 CAPLUS ACCESSION NUMBER:

DOCUMENT NUMBER: 136:6122

Binap and MeO-Biphep complexes of Ru(II). Dicationic TITLE:

ligands as 6e donors. Unexpected cyclometallation in

connection with P-C bond breaking

den Reijer, Carolien J.; Dotta, Pascal; Pregosin, Paul AUTHOR(S):

S.; Albinati, Alberto

Laboratory of Inorganic Chemistry, ETH-Zentrum, CORPORATE SOURCE:

Zurich, CH-8092, Switz.

Canadian Journal of Chemistry (2001), 79(5/6), 693-704 SOURCE:

CODEN: CJCHAG; ISSN: 0008-4042

National Research Council of Canada PUBLISHER:

DOCUMENT TYPE: Journal LANGUAGE: English

CASREACT 136:6122 OTHER SOURCE(S):

Cationic and dicationic Ru-arene complexes with Binap (la; rac-2,2'-bis(diphenylphosphino)-1,1'-binaphthyl) and MeO-Biphep (1b; (S)-2,2'-bis(diphenylphosphino)-6,6'-dimethoxy-1,1'-biphenyl) were prepared 13C NMR studies are useful in connection with recognizing the 6e-bonding mode of 1a and 1b in the dications [Ru(1a or 1b)(n6-arene)](SbF6)2 (8, Reaction of 8, 9 with: (a) (Bu4N)(Ph3SiF2) leads to a cyclometalated product, (2'-diphenylphosphino-1,1'-binaphthalen-2yl) (arene) (fluorodiphenylphosphine) ruthenium hexafluoroantimonate, which arises via P-C bond breaking and P-F bond making; (b) MeOH provides a

straightforward synthesis of the corresponding hydrides. 13C NMR p-cymene chemical shifts are reported. The crystal and mol. structures of [RuCl(Binap)(p-cymene)]Cl were determined by x-ray crystallog.

IT 150971-45-2, (R)-2,2'-Bis(diisopropylphosphino)-6,6'-dimethoxy-

1,1'-biphenyl

RL: RCT (Reactant); RACT (Reactant or reagent)

(coordinative substitution with ruthenium chloro arene complex)

RN 150971-45-2 CAPLUS

Phosphine, [(1R)-6,6'-dimethoxy[1,1'-biphenyl]-2,2'-diyl]bis[bis(1-CN methylethyl) - (9CI) (CA INDEX NAME)

IT 133545-17-2, (S)-2,2'-Bis(diphenylphosphino)-6,6'-dimethoxy-1,1'-

biphenyl

RL: RCT (Reactant); RACT (Reactant or reagent)

(coordinative substitution with ruthenium chloro arene complexes)

RN 133545-17-2 CAPLUS

CN Phosphine, 1,1'-[(1S)-6,6'-dimethoxy[1,1'-biphenyl]-2,2'-diyl]bis[1,1-diphenyl- (CA INDEX NAME)

REFERENCE COUNT: 43 THERE ARE 43 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L3 ANSWER 138 OF 212 CAPLUS COPYRIGHT 2007 ACS on STN

ACCESSION NUMBER:

2001:586497 CAPLUS

DOCUMENT NUMBER:

135:166783

TITLE:

Preparation of 3,6-dialkyl-5,6-dihydro-4-hydroxy-2H-

pyran-2-ones

INVENTOR(S):

Harrington, Peter John; Hodges, Lewis M.; Puentener,

Kurt; Scalone, Michelangelo

PATENT ASSIGNEE(S):

F. Hoffmann-La Roche, A.-G., Switz.

SOURCE:

Jpn. Kokai Tokkyo Koho, 34 pp. CODEN: JKXXAF

CODEN

DOCUMENT TYPE:

Patent

LANGUAGE:

Japanese

FAMILY ACC. NUM. COUNT:

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 2001220387	A	20010814	JP 2001-27688	20010205
US 6552204	B1	20030422	US 2000-668799	20000922
EP 1127886	A1	20010829	EP 2001-101636	20010126
EP 1127886	B1	20030507		
R: AT, BE, CH,	DE, DE	, ES, FR, GE	B, GR, IT, LI, LU, NL,	SE, MC, PT,
IE, SI, LT,	LV, FI	, RO		

AT 239716	Т	20030515		2001-101636		20010126
ES 2197128	Т3	20040101	ES	2001-1101636		20010126
CA 2333192	A1	20010804	CA	2001-2333192		20010131
CA 2333192	С	20070123				
IN 2001MA00084	Α	20050304	IN	2001-MA84		20010131
CN 1319596	Α	20011031	CN	2001-111916		20010202
JP 2004346078	Α	20041209	JP	2004-183222		20040622
PRIORITY APPLN. INFO.:			US	2000-180578P	P	20000204
			JP	2001-27688	A3	20010205

OTHER SOURCE(S):

CASREACT 135:166783; MARPAT 135:166783

GI

Title compds. I (R1 = C1-20 alkyl; R2 = H, C1-10 alkyl) are prepared by reaction of R1CH(OR3)CH2COX (R1 = same as I; R3 = OH-protecting group; X = halide) with R2CH:C(OR4)OR5 (R2 = same as I; R4, R5 = C1-6 alkyl, C5-20 aryl, C6-20 arylalkyl, SiR8R9R10; R8-R10 = C1-6 alkyl, Ph), deprotection of R1CH(OR3)CH:C(OR6)CHR2CO2R5 (R1-R3, R5 = same as above; R6 = H, corresponding group to R4), and treatment with acids. Thus, (R)-3-(trimethylsiloxy)tetradecanoyl chloride was reacted with 42.42 g 1-methoxy-1-trimethylsiloxy-1-octene in THF in the presence of Et3N at -5° for 16 h, treated with CaCO3 in MeOH at 0° for 17 h, and cyclized in the presence of HC1 in MeOH at 0° for 4 h to give 41.30 g (R)-3-hexyl-4-hydroxy-6-undecyl-5,6-dihydropyran-2-one.

IT 133545-16-1 192138-05-9

RL: RCT (Reactant); RACT (Reactant or reagent) (preparation of hydroxypyranones by condensation of acyl halides with ketene acetals and cyclization)

RN 133545-16-1 CAPLUS

CN Phosphine, 1,1'-[(1R)-6,6'-dimethoxy[1,1'-biphenyl]-2,2'-diyl]bis[1,1-diphenyl- (CA INDEX NAME)

RN 192138-05-9 CAPLUS CN Phosphine, [(1R)-6,6'-dimethoxy[1,1'-biphenyl]-2,2'-diyl]bis[bis[3,5-

L3 ANSWER 139 OF 212 CAPLUS COPYRIGHT 2007 ACS on STN

ACCESSION NUMBER:

2001:581865 CAPLUS

DOCUMENT NUMBER:

135:152719

TITLE:

Process for the (enantioselective) synthesis of 3,6-dialkyl-5,6-dihydro-4-hydroxy-pyran-2-ones via

intramolecular cyclization of (homochiral)

 α -halo esters

INVENTOR(S):

Fleming, Michael Paul; Han, Yeun-Kwei; Hodges, Lewis M.; Johnston, David A.; Micheli, Roger P.; Puentener, Kurt; Roberts, Christopher R.; Scalone, Michelangelo;

Schwindt, Mark A.; Topping, Robert J. F. Hoffmann-La Roche A.-G., Switz.

PATENT ASSIGNEE(S):

PCT Int. Appl., 46 pp.

SOURCE:

CODEN: PIXXD2

DOCUMENT TYPE:

Patent

LANGUAGE:

English

FAMILY ACC. NUM. COUNT:

PATENT INFORMATION:

PATENT NO.					KIND		DATE		. 1	APPL	ICAT:	DATE					
	2001				A2 20010809 A3 20020418				Ţ	WO 20	001-1		20010126				
WO		ΑE,	AL,	AM,	AT,	AU,	AZ, GB,	BA,									
		JP,	KE,	KG,	KP,	KR,	KZ,	LC,	LK,	LR,	LS,	LT,	LU,	LV,	MA,	MD,	MG,
		ТJ,	TM,	TR,	TT,	UA,	NZ, UG,	UZ,	VN,	YU,	ZA,	ZW					
	RW:						MZ, GB,										
							GA,										
US	6545		·		В1		2003	0408	1	US 2	000-		20000922				
CA	2397	232			A1		2001	0809		CA 2	001-		20010126				
CA	2397	232			С		2007	0123									
	1255						2002			EP 2	001-	9096	20010126				
EΡ	1255	747			В1		2006	1004									

		BE,									LI,	LU,	NL,	SE,	MC,	PT,
	IF	E, SI,	LT,	LV,		-		CY,								
JP 2	003521	.546		\mathbf{T}	:	2003	0715	_		2001-				_	20010	
CN 1	680347	7		Α		2005	1012	C	N 2	2005-1	1007	0933		2	20010	126
AT 3	41541			Т		2006	1015	A	Т 2	2001-9	90969	97		2	20010	126
US 2	003158	3422		A1		2003	0821	U	S 2	2003-3	3645	36		2	20030	210
US 6	858749)		В2		2005	0222									
US 2	003158	3423		A1		2003	0821	U	S 2	2003-	3645	47		2	20030	210
US 6	743927	7		B2		2004	0601									
US 2	003171	L602		A 1		2003	0911	U	S 2	2003-	3646	92		2	20030	210
US 6	818789)		В2		2004	1116									
PRIORITY .	APPLN.	INFO	. :					U	S 2	2000-1	1805	60P		P 2	20000	204
								U	S 2	2000-	6688	34		A3 2	20000	922
								С	N 2	2001-	8044	31		A3 2	20010	126
								W	0 2	2001-	EP86	6	1	W 2	20010	126
OTHER SOU	RCE(S)	:		CAS	REAC	T 13	5:15	2719;	M	ARPAT	135	:152	719			

GΙ

$$R^2$$
OH
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 R^2
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 R^2
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 R^2
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 I

A process for preparation of (homochiral) δ -lactone I by cyclization of AB II upon treatment with Mg, Mg/Na mixts., Grignard reagents, Sm or Mn [R1 = $^{\circ}$ alkyl, preferably undecyl; R2 = alkyl, preferably hexyl; Y = halo; Z = CN, ester, amide, hydroxylamino amide, acid halide/anhydride, carboxyl carbonate or carboxyl haloformate] is described. II is prepared from R1CHOHCH2Z (III) and XCOCHBrR2 [X = Br, Cl]. (R)-III is prepared from the corresponding carbonyl compound by catalytic hydrogenation using a ruthenium catalyst/additive (over 20 examples). For instance, C11H23COCH2COOMe (preparation given) is reduced using [Ru(OAc)2(R)-MeOBIPHEP] [(R)-MeOBIPHEP = substituted bis(diphenylphosphine)] S/C = 50,000, 20 equivalent HCl, H2 (70 bar), 80° C, MeOH/H2O to give (R)-C11H23CHOHCH2COOMe, >99% conversion, >99% ee in 2 h. Further, stereoselective hydrogenation, base-mediated ring opening and protection of (R)-I to IV [PG = protecting group; X+ = cation] followed by cyclization, deprotection and reaction with N-formyl-S-leucine under Mitsunobu conditions is claimed to afford (e.g.) orlistat (V).

133545-24-1 150971-35-0 172617-14-0 IT 256390-47-3 256390-48-4 352655-37-9 352655-38-0 352655-39-1 352655-40-4 352655-41-5 352655-61-9

RL: CAT (Catalyst use); USES (Uses)

(catalyst; process for the enantioselective synthesis of 3,6-dialkyl-5,6-dihydro-4-hydroxy-pyran-2-ones via intramol. cyclization of homochiral $\alpha\text{-halo}$ esters)

RN 133545-24-1 CAPLUS

CN

Phosphine, (6,6'-dimethoxy[1,1'-biphenyl]-2,2'-diyl)bis[bis(4-methylphenyl)-, (R)- (9CI) (CA INDEX NAME)

PAGE 1-A

PAGE 2-A

| Me

150971-35-0 CAPLUS

RN

CN Phosphine, (6,6'-dimethoxy[1,1'-biphenyl]-2,2'-diyl)bis[bis[3,5-bis(trimethylsilyl)phenyl]-, (R)- (9CI) (CA INDEX NAME)

PAGE 2-A

RN 172617-14-0 CAPLUS
CN Phosphine, (6,6'-dimethoxy[1,1'-biphenyl]-2,2'-diyl)bis[dicyclohexyl-, (R)- (9CI) (CA INDEX NAME)

PAGE 1-A

RN 256390-47-3 CAPLUS

CN Phosphine, [(1R)-6,6'-dimethoxy[1,1'-biphenyl]-2,2'-diyl]bis[bis(3,4,5-trimethoxyphenyl)- (9CI) (CA INDEX NAME)

RN 256390-48-4 CAPLUS

CN Phosphine, [(1R)-6,6'-dimethoxy[1,1'-biphenyl]-2,2'-diyl]bis[bis(4-methoxy-3,5-dimethylphenyl)- (9CI) (CA INDEX NAME)

RN 352655-37-9 CAPLUS
CN Phosphine, [(1R)-6,6'-dimethoxy[1,1'-biphenyl]-2,2'-diyl]bis[bis[3,5-bis(1,1-dimethylpropyl)phenyl]- (9CI) (CA INDEX NAME)

PAGE 1-A

RN 352655-38-0 CAPLUS
CN Morpholine, 4,4',4'',4''',4'''',4'''',4'''',4'''',4'''',6[[(1R)-6,6'-dimethoxy[1,1'-biphenyl]-2,2'-diyl]bis(phosphinidynedi-5,1,3-benzenetriyl)]octakis- (9CI) (CA INDEX NAME)

PAGE 1-A

PAGE 2-A

RN 352655-39-1 CAPLUS

CN Phosphine, [(1R)-6,6'-dimethoxy[1,1'-biphenyl]-2,2'-diyl]bis[bis[3,5-bis(trifluoromethyl)phenyl]- (9CI) (CA INDEX NAME)

RN 352655-40-4 CAPLUS

CN Benzenamine, 4,4',4'',4'''-[[(1R)-6,6'-dimethoxy[1,1'-biphenyl]-2,2'-diyl]diphosphinidyne]tetrakis[N,N-dimethyl-2,6-bis(1-methylethyl)- (9CI) (CA INDEX NAME)

RN 352655-41-5 CAPLUS

CN Phosphine, [(1R)-6,6'-dimethoxy[1,1'-biphenyl]-2,2'-diyl]bis[bis(5-methoxy-2-naphthalenyl)- (9CI) (CA INDEX NAME)

RN 352655-61-9 CAPLUS
CN Phosphine, [(1R)-6,6'-dimethoxy[1,1'-biphenyl]-2,2'-diyl]bis[bis[3,5-bis(1,1-dimethylethyl)-4-methoxyphenyl]- (9CI) (CA INDEX NAME)

IT 133545-16-1P 192138-05-9P
 RL: CAT (Catalyst use); SPN (Synthetic preparation); PREP (Preparation);
 USES (Uses)
 (catalyst; process for the enantioselective synthesis of
 3,6-dialkyl-5,6-dihydro-4-hydroxy-pyran-2-ones via intramol.
 cyclization of homochiral α-halo esters)
RN 133545-16-1 CAPLUS
Phosphine, 1,1'-[(1R)-6,6'-dimethoxy[1,1'-biphenyl]-2,2'-diyl]bis[1,1-diphenyl- (CA INDEX NAME)

192138-05-9 CAPLUS RN

Phosphine, [(1R)-6,6'-dimethoxy[1,1'-biphenyl]-2,2'-diyl]bis[bis[3,5-CN bis(1,1-dimethylethyl)phenyl]- (9CI) (CA INDEX NAME)

ANSWER 140 OF 212 CAPLUS COPYRIGHT 2007 ACS on STN

ACCESSION NUMBER:

2001:545644 CAPLUS

DOCUMENT NUMBER:

135:122198

TITLE:

Preparation of optically active 1-alkoxy- or 1-aryloxy-2-alkanol compounds by asymmetrical hydrogenation of corresponding 1-alkoxy- or

1-aryloxy-2-alkanones

INVENTOR(S):

Bulliard, Michel; Laboue, Blandine; Frein, Stephane

PATENT ASSIGNEE(S):

PPG-Sipsy SCA, Fr.

SOURCE:

PCT Int. Appl., 12 pp. CODEN: PIXXD2

DOCUMENT TYPE:

Patent

LANGUAGE:

French

FAMILY ACC. NUM. COUNT:

PATENT INFORMATION:

APPLICATION NO. PATENT NO. KIND DATE DATE

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20010726
                                                WO 2001-FR191
                                                                         20010119
     WO 2001053239
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             AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN,
              CR, CU, CZ, DE, DK, DM, DZ, EE, ES, FI, GB, GD, GE, GH, GM, HR,
              HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT,
              LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, PL, PT, RO, RU,
              SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, US, UZ, VN,
              YU, ZA, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM
         RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZW, AT, BE, CH, CY,
              DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG
                                                                         20000121
     FR 2804108
                                   20010727
                                                FR 2000-785
                            Α1
     FR 2804108
                            В1
                                   20020419
PRIORITY APPLN. INFO.:
                                                FR 2000-785
                                                                      A 20000121
OTHER SOURCE(S):
                           CASREACT 135:122198; MARPAT 135:122198
GΙ
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The invention concerns a method for preparing optically active 1-alkoxy- or AΒ 1-aryloxy-2-alkanol compds. RCH(OH)CH2OR' (I) by asym. hydrogenation of corresponding ketones RCOCH2OR' (II) [wherein: R = aryl, arylalkyl, or C1-6 alkyl, optionally substituted by C1-4 alkyl, alkoxy, or halo; R' = C1-6 alkyl, aryl such as Ph or PhCH2; R' may equal or differ from R], in the presence of a chiral ruthenium-based catalyst. The catalyst is a ruthenium diphosphine Ru(Z)2L [where Z = halo, alcoholate, aryl, haloaryl, or halogenated base; L = chiral biphenyl diphosphine III; R1 = Ph group; R2, R3 = H, alkoxy; R4 = C1-5 alkyl, preferably Me]. I are drug synthesis intermediates. The ratio of substrate II to the Ru complex is preferably 1000 to 10,000. For example, a catalyst was generated in situ from bis(2-methylallyl)-1,5-cyclooctadieneruthenium(II), (R)-MeO-BIPHEP [i.e., (R)-III (R1 = Ph, R2 = R3 = H, R4 = Me)], and 2 equiv HBr, in degassedMeOH containing the substrate MeCOCH2OMe. The mixture was hydrogenated overnight at 5 bar H2 and 42°, to give (R)-MeCH(OH)CH2OMe in 63.9% yield, with 98.7% chemical purity and 97.2% enantiomeric excess. 133545-16-1, (R)-MeOBIPHEP IT

RL: CAT (Catalyst use); USES (Uses)

(catalyst precursor; preparation of optically active alkoxy- or aryloxyalkanols by asym. hydrogenation of corresponding alkoxy- or aryloxyalkanones)

RN 133545-16-1 CAPLUS

CN Phosphine, 1,1'-[(1R)-6,6'-dimethoxy[1,1'-biphenyl]-2,2'-diyl]bis[1,1-diphenyl- (CA INDEX NAME)

THERE ARE 2 CITED REFERENCES AVAILABLE FOR THIS 2 REFERENCE COUNT: RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

CAPLUS COPYRIGHT 2007 ACS on STN ANSWER 141 OF 212

2001:518573 CAPLUS ACCESSION NUMBER:

DOCUMENT NUMBER:

135:331224

TITLE:

C2-Symmetric sulfur derivatives of

2,2',3,3'-tetramethoxybiphenyl

AUTHOR(S):

Delogu, G.; Fabbri, D.; Dettori, M. A.; Forni, A.;

Casalone, G.

CORPORATE SOURCE:

Istituto CNR Applicazione delle Tecniche Chimiche

Avanzate ai Problemi Agrobiologici, Sassari, I-07100,

Italy

SOURCE:

Tetrahedron: Asymmetry (2001), 12(10), 1451-1458

CODEN: TASYE3; ISSN: 0957-4166

PUBLISHER:

Elsevier Science Ltd.

DOCUMENT TYPE:

Journal

LANGUAGE:

English

OTHER SOURCE(S):

CASREACT 135:331224

A practical route to prepare dithioether, thiophene and thiophene S-dioxide derivs. of 2,2',3,3'-tetramethoxy-1,1'-biphenyl is described. Resolution of 6,6'-bis(methylthio)-3,3'-dimethoxy-[1,1'-biphenyl]-2,2'-diol was achieved and its absolute configuration was assigned by X-ray anal. of the

corresponding phosphorothioamidate diastereomer.

133577-93-2P IT

RL: SPN (Synthetic preparation); PREP (Preparation)

(preparation of C2-sym. sulfur derivs. of 2,2',3,3'-tetramethoxybiphenyl)

133577-93-2 CAPLUS RN

Phosphine, (5,5',6,6'-tetramethoxy[1,1'-biphenyl]-2,2'-diyl)bis[diphenyl-CN (CA INDEX NAME) (9CI)

THERE ARE 87 CITED REFERENCES AVAILABLE FOR THIS 87 REFERENCE COUNT: RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

CAPLUS COPYRIGHT 2007 ACS on STN ANSWER 142 OF 212

ACCESSION NUMBER:

2001:460476 CAPLUS

DOCUMENT NUMBER:

135:241955

TITLE:

Enantioselective copper-catalyzed SN2' substitution

with Grignard reagents

AUTHOR(S):

Alexakis, Alexandre; Malan, Christophe; Lea, Louise;

Benhaim, Cyril; Fournioux, Xavier

CORPORATE SOURCE:

Chimie Organique, Sciences II, University of Geneva,

Geneva, CH-1211, Switz.

SOURCE:

Synlett (2001), (Spec. Issue), 927-930 CODEN: SYNLES; ISSN: 0936-5214

PUBLISHER:

Georg Thieme Verlag

DOCUMENT TYPE:

Journal English

LANGUAGE: OTHER SOURCE(S):

CASREACT 135:241955

Cinnamyl chlorides undergo selective SN2' allylic substitution by Grignard reagents using a catalytic amount (1 mol %) of CuCN and 1-2 mol % trivalent phosphorus ligand in dichloromethane. With chiral phosphorus ligands derived from TADDOL, ee's up to 73% could be obtained.

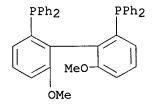
IT

RL: CAT (Catalyst use); USES (Uses)

(enantioselective copper-catalyzed SN2' substitution with Grignard reagents)

RN

Phosphine, (6,6'-dimethoxy[1,1'-biphenyl]-2,2'-diyl)bis[diphenyl- (9CI) CN (CA INDEX NAME)



REFERENCE COUNT:

THERE ARE 25 CITED REFERENCES AVAILABLE FOR THIS . 25 RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

ANSWER 143 OF 212 CAPLUS COPYRIGHT 2007 ACS on STN

ACCESSION NUMBER:

CORPORATE SOURCE:

2001:368140 CAPLUS

DOCUMENT NUMBER:

135:137688

TITLE:

Stereoselective Synthesis of iso-Dolaproine via

Dynamic Kinetic Resolution

AUTHOR(S):

Lavergne, Damien; Mordant, Celine;

Ratovelomanana-Vidal, Virginie; Genet, Jean-Pierre Laboratoire de Synthese Selective Organique et

Produits Naturels, UMR 7573 CNRS Ecole Nationale Superieure de Chimie de Paris, Paris, F-75231, Fr.

SOURCE:

Organic Letters (2001), 3(12), 1909-1912

CODEN: ORLEF7; ISSN: 1523-7060

PUBLISHER:

American Chemical Society

DOCUMENT TYPE:

Journal

LANGUAGE:

English

OTHER SOURCE(S):

CASREACT 135:137688

GΙ

AB An efficient multigram-scale synthesis of optically pure Boc-(2S,3R,4S)-iso-dolaproine (I) was achieved using dynamic kinetic resolution Catalytic asym. hydrogenation of β -keto ester II using Ru[(S)-MeO-BIPHEP]Br2 catalyst, generated in situ, afforded the anti $\beta\text{-hydroxy}\ \alpha\text{-Me}$ ester III in quant. yield. III was converted into I in 4 steps. The two new stereogenic centers were simultaneously controlled with high diastereoselectivity.

IT 133545-17-2

RL: CAT (Catalyst use); RCT (Reactant); RACT (Reactant or reagent); USES

(stereoselective, multigram preparation of iso-dolaproine using dynamic kinetic resolution for separating minor diastereomers)

133545-17-2 CAPLUS RN

Phosphine, 1,1'-[(1S)-6,6'-dimethoxy[1,1'-biphenyl]-2,2'-diyl]bis[1,1-CN diphenyl- (CA INDEX NAME)

THERE ARE 40 CITED REFERENCES AVAILABLE FOR THIS 40 REFERENCE COUNT: RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

CAPLUS COPYRIGHT 2007 ACS on STN ANSWER 144 OF 212

ACCESSION NUMBER:

2001:338996 CAPLUS

DOCUMENT NUMBER:

135:108887

TITLE: AUTHOR(S): Large-Scale Candoxatril Asymmetric Hydrogenation Bulliard, Michel; Laboue, Blandine; Lastennet, Jean;

Roussiasse, Sonia

CORPORATE SOURCE:

PPG-SIPSY, Avrille, 49242, Fr.

SOURCE:

Organic Process Research & Development (2001), 5(4),

438-441

CODEN: OPRDFK; ISSN: 1083-6160

PUBLISHER:

DOCUMENT TYPE:

American Chemical Society

Journal

LANGUAGE:

English

Ruthenium-catalyzed asym. hydrogenation was used to prepare tons of a key AR chiral succinate intermediate for clin. trials quantities of candoxatril. MeOBiphep was used as the ligand, and the catalyst was generated in situ from RuCODBismethylallyl. THF was the best cosolvent for the reaction

leading to a selective hydrogenation and a process which was readily amenable on large scale.

IT 133545-16-1

RL: RCT (Reactant); RACT (Reactant or reagent)

(catalyst starting material; large-scale asym. hydrogenation of intermediate in candoxatril manufacture using ruthenium catalysts)

133545-16-1 CAPLUS RN

Phosphine, 1,1'-[(1R)-6,6'-dimethoxy[1,1'-biphenyl]-2,2'-diyl]bis[1,1-CN diphenyl- (CA INDEX NAME)

OMe R PPh2

Ph₂P MeO

REFERENCE COUNT:

THERE ARE 8 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

ANSWER 145 OF 212 CAPLUS COPYRIGHT 2007 ACS on STN

8

ACCESSION NUMBER:

2001:262999 CAPLUS

DOCUMENT NUMBER:

135:76757

TITLE:

Catalytic synthesis and asymmetric reduction of

pyridylglyoxylic amides and esters

AUTHOR(S):

Couve-Bonnaire, Samuel; Carpentier, Jean-Francois;

Mortreux, Andre; Castanet, Yves

CORPORATE SOURCE:

Laboratoire de Catalyse de Lille, UPRESA CNRS 8010, Groupe de Chimie Organique Appliquee, Ecole Nationale Superieure de Chimie de Lille, Villeneuve d'Ascq,

59652, Fr.

SOURCE:

Advanced Synthesis & Catalysis (2001), 343(3), 289-298

CODEN: ASCAF7; ISSN: 1615-4150

PUBLISHER:

Wiley-VCH Verlag GmbH

DOCUMENT TYPE:

Journal

LANGUAGE:

English

OTHER SOURCE(S):

CASREACT 135:76757

The preparation of 2-pyridyl- and 4-pyridylglyoxylic esters and amides in moderate to high yields via palladium-catalyzed double carbonylation of 2-iodo- and 4-iodopyridines is reported. The effect of temperature, CO pressure, solvent, nature and concentration of nucleophile, nature of catalyst precursor, and substituents on iodopyridines has been investigated. The reduction of 4-pyridylglyoxylate esters into the corresponding α -hydroxy esters via ruthenium-catalyzed asym. hydrogenation or using alpine-borane proceeded in high yields but poor enantioselectivity. The results for the carbonylation and the hydrogenation catalytic processes are discussed in terms of electronic effects induced by the pyridyl ring.

IT 133545-17-2, (S)-MeoBiphep

RL: CAT (Catalyst use); USES (Uses)

(preparation of glycolate esters from catalytic, asym. hydrogenation of glyoxylate esters)

133545-17-2 CAPLUS RN

REFERENCE COUNT:

50 THERE ARE 50 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

ANSWER 146 OF 212 CAPLUS COPYRIGHT 2007 ACS on STN L3

ACCESSION NUMBER:

2001:228894 CAPLUS

DOCUMENT NUMBER:

134:266437

TITLE:

Chiral phosphines, transition metal complexes thereof

and uses thereof in asymmetric reactions

INVENTOR(S):

Zhang, Xumu

PATENT ASSIGNEE(S):

Penn State Research Foundation, USA

SOURCE:

PCT Int. Appl., 52 pp. CODEN: PIXXD2

DOCUMENT TYPE:

Patent

LANGUAGE:

English

FAMILY ACC. NUM. COUNT:

PATENT INFORMATION:

PAT	PATENT NO.					KIND DATE				APPL	ICAT:	DATE					
WO	WO 2001021625							ı	йO 2	000-		20000919					
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		HU,	ID,	IL,	IN,	IS,	JP,	ΚE,	KG,	ΚP,	KR,	ΚZ,	LC,	LK,	LR,	LS,	LT,
		LU,	LV,	MA,	MD,	MG,	MK,	MN,	MW,	MX,	ΜZ,	NO,	ΝZ,	PL,	PT,	RO,	RU,
		SD,	SE,	SG,	SI,	SK,	SL,	ТJ,	TM,	TR,	TT,	TZ,	UA,	UG,	US,	UZ,	VN,
		YU,	ZA,	ZW													
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											ΝE,						
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EP	1214	328			A 1	A1 20020619]	EP 2	000-		20000919					
EP	1214	328			В1		2006	0503									
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. JP	2003	5095	13		T		2003	0311		JP 2	001-	5250	00		2	0000	919
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ES	2263	487			Т3		2006	1216]	ES 2	000-	9651	36		2	0000	919
PRIORITY	APP	LN.	INFO	.:					1	US 1	999-	1548	45P		P 1	9990	920
											000-				W 2	0000	919
OTHER SO	THER SOURCE(S):						CASREACT 134:266437; MARPAT 134:266437										

GI

I

AB Chiral ligands and transition metal complexes based on such chiral ligands useful in asym. catalysis are disclosed. The chiral ligands include chiral C1-C6-TunaPhos ligands I (n = 1-6). The ruthenium TunaPhos complex reduces ketones to the corresponding alcs. with 95-99.6 % enantioselectivity. The transition metal complexes of the chiral ligands are useful in asym. reactions such as asym. hydrogenation, hydride transfer, hydrosilylation, hydroboration, hydrovinylation, hydroformylation, hydrocarboxylation, isomerization, allylic alkylation, cyclopropanation, Diels-Alder reaction, Heck reaction, isomerization, Aldol reaction, Michael addition and epoxidn. reactions.

IT 133545-16-1P, (R)-MeO-BIPHEP
RL: CAT (Catalyst use); RCT (Reactant); SPN (Synthetic preparation); PREP
(Preparation); RACT (Reactant or reagent); USES (Uses)
(as free ligand and as dendrimer core; preparation as chiral diphosphine cocatalyst in transition metal complex catalyzed asym. reactions and demethylation of)

RN 133545-16-1 CAPLUS

CN Phosphine, 1,1'-[(1R)-6,6'-dimethoxy[1,1'-biphenyl]-2,2'-diyl]bis[1,1-diphenyl- (CA INDEX NAME)

N [1,1'-Biphenyl]-2,2'-diol, 6,6'-bis(diphenylphosphino)-, (1R)- (CA INDEX NAME)

ΙT 331754-81-5 331768-78-6 331768-80-0 331768-82-2 331768-83-3 331768-84-4 331768-85-5 331768-86-6 331769-41-6 331769-42-7 331769-43-8 331769-44-9 331769-45-0 331769-46-1 331769-47-2 331769-48-3 331769-49-4 331769-50-7 331769-51-8 331769-52-9 331769-53-0 331769-54-1 331769-55-2 331769-56-3 331769-57-4 RL: CAT (Catalyst use); USES (Uses) (preparation of chiral diphosphines as cocatalyst in transition metal complex catalyzed asym. reactions) RN 331754-81-5 CAPLUS Poly(oxy-1,2-ethanediyl), α,α' -[(1R)-6,6'-CN bis (diphenylphosphino) [1,1'-biphenyl]-2,2'-diyl]bis [ω -methoxy- (9CI) (CA INDEX NAME)

MeO
$$CH_2-CH_2-O$$
 PPh_2 PPh_2 $O-CH_2-CH_2$ OMe

RN 331768-78-6 CAPLUS
CN Phosphine, [(1R)-6,6'-bis[[(1,1-dimethylethyl)dimethylsilyl]oxy][1,1'-biphenyl]-2,2'-diyl]bis[diphenyl- (9CI) (CA INDEX NAME)

RN 331768-80-0 CAPLUS
CN 2-Propenoic acid, (1R)-6,6'-bis(diphenylphosphino)[1,1'-biphenyl]-2,2'-diyl ester, homopolymer (9CI) (CA INDEX NAME)

CRN 331768-79-7 CMF C42 H32 O4 P2

RN 331768-82-2 CAPLUS

CN Phosphine, [(1R)-6,6'-bis[(4-ethenylphenyl)methoxy][1,1'-biphenyl]-2,2'-diyl]bis[diphenyl-, homopolymer (9CI) (CA INDEX NAME)

CM 1

CRN 331768-81-1 CMF C54 H44 O2 P2

PAGE 1-A

RN 331768-83-3 CAPLUS

CN Phosphine, [(1R)-6,6'-bis(pentafluoroethoxy)[1,1'-biphenyl]-2,2'-diyl]bis[diphenyl- (9CI) (CA INDEX NAME)

RN 331768-84-4 CAPLUS

CN Methanesulfonic acid, [[(1R)-6,6'-bis(diphenylphosphino)[1,1'-biphenyl]-2,2'-diyl]bis(oxy)]bis-(9CI) (CA INDEX NAME)

RN 331768-85-5 CAPLUS

CN Phosphonic acid, [[(1R)-6,6'-bis(diphenylphosphino)[1,1'-biphenyl]-2,2'-diyl]bis(oxymethylene)]bis- (9CI) (CA INDEX NAME)

RN 331768-86-6 CAPLUS
CN Acetic acid, 2,2'-[[(1R)-6,6'-bis(diphenylphosphino)[1,1'-biphenyl]-2,2'-diyl]bis(oxy)]bis- (9CI) (CA INDEX NAME)

1 .

RN 331769-41-6 CAPLUS
CN Phosphine, [(1R)-6,6'-bis(heptafluoropropoxy)[1,1'-biphenyl]-2,2'-diyl]bis[diphenyl- (9CI) (CA INDEX NAME)

RN 331769-42-7 CAPLUS
CN Phosphine, [(1R)-6,6'-bis(nonafluorobutoxy)[1,1'-biphenyl]-2,2'-diyl]bis[diphenyl- (9CI) (CA INDEX NAME)

RN 331769-43-8 CAPLUS

CN Phosphine, [(1R)-6,6'-bis[(undecafluoropentyl)oxy][1,1'-biphenyl]-2,2'-diyl]bis[diphenyl- (9CI) (CA INDEX NAME)

RN 331769-44-9 CAPLUS

CN Phosphine, [(1R)-6,6'-bis[(tridecafluorohexyl)oxy][1,1'-biphenyl]-2,2'-diyl]bis[diphenyl- (9CI) (CA INDEX NAME)

RN 331769-45-0 CAPLUS

CN Phosphine, [(1R)-6,6'-bis[(pentadecafluoroheptyl)oxy][1,1'-biphenyl]-2,2'-diyl]bis[diphenyl- (9CI) (CA INDEX NAME)

RN 331769-46-1 CAPLUS

CN Phosphine, [(1R)-6,6'-bis[(heptadecafluorooctyl)oxy][1,1'-biphenyl]-2,2'-diyl]bis[diphenyl- (9CI) (CA INDEX NAME)

RN 331769-47-2 CAPLUS

CN Phosphine, [(1R)-6,6'-bis[(nonadecafluorononyl)oxy][1,1'-biphenyl]-2,2'-diyl]bis[diphenyl- (9CI) (CA INDEX NAME)

RN 331769-48-3 CAPLUS

CN Phosphine, [(1R)-6,6'-bis[(heneicosafluorodecyl)oxy][1,1'-biphenyl]-2,2'-diyl]bis[diphenyl- (9CI) (CA INDEX NAME)

RN 331769-49-4 CAPLUS

CN Phosphine, [(1R)-6,6'-bis[(tricosafluoroundecyl)oxy][1,1'-biphenyl]-2,2'-diyl]bis[diphenyl- (9CI) (CA INDEX NAME)

RN 331769-50-7 CAPLUS

CN Phosphonic acid, [[(1R)-6,6'-bis(diphenylphosphino)[1,1'-biphenyl]-2,2'-diyl]bis(oxy-2,1-ethanediyl)]bis- (9CI) (CA INDEX NAME)

RN 331769-51-8 CAPLUS

CN Phosphonic acid, [[(1R)-6,6'-bis(diphenylphosphino)[1,1'-biphenyl]-2,2'-diyl]bis(oxy-3,1-propanediyl)]bis-(9CI) (CA INDEX NAME)

RN 331769-52-9 CAPLUS

CN Phosphonic acid, [[(1R)-6,6'-bis(diphenylphosphino)[1,1'-biphenyl]-2,2'-diyl]bis(oxy-4,1-butanediyl)]bis- (9CI) (CA INDEX NAME)

RN 331769-53-0 CAPLUS

CN Phosphonic acid, [[(1R)-6,6'-bis(diphenylphosphino)[1,1'-biphenyl]-2,2'-diyl]bis(oxy-5,1-pentanediyl)]bis- (9CI) (CA INDEX NAME)

RN 331769-54-1 CAPLUS

CN Ethanesulfonic acid, 2,2'-[[(1R)-6,6'-bis(diphenylphosphino)[1,1'-biphenyl]-2,2'-diyl]bis(oxy)]bis-(9CI) (CA INDEX NAME)

RN 331769-55-2 CAPLUS
CN 1-Propanesulfonic acid, 3,3'-[[(1R)-6,6'-bis(diphenylphosphino)[1,1'-biphenyl]-2,2'-diyl]bis(oxy)]bis- (9CI) (CA INDEX NAME)

RN 331769-56-3 CAPLUS
CN 1-Butanesulfonic acid, 4,4'-[[(1R)-6,6'-bis(diphenylphosphino)[1,1'-biphenyl]-2,2'-diyl]bis(oxy)]bis- (9CI) (CA INDEX NAME)

RN 331769-57-4 CAPLUS
CN 1-Pentanesulfonic acid, 5,5'-[[(1R)-6,6'-bis(diphenylphosphino)[1,1'-biphenyl]-2,2'-diyl]bis(oxy)]bis- (9CI) (CA INDEX NAME)

IT 133577-82-9, (R)-(6,6'-Dimethoxybiphenyl-2,2'-

diyl)bis(diphenylphosphine oxide)

RL: RCT (Reactant); RACT (Reactant or reagent)

(reduction of)

RN 133577-82-9 CAPLUS

CN Phosphine oxide, (6,6'-dimethoxy[1,1'-biphenyl]-2,2'-diyl)bis[diphenyl-, (1R)- (9CI) (CA INDEX NAME)

REFERENCE COUNT: 4 THERE ARE 4 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L3 ANSWER 147 OF 212 CAPLUS COPYRIGHT 2007 ACS on STN

ACCESSION NUMBER:

2001:222346 CAPLUS

DOCUMENT NUMBER:

135:60899

TITLE:

Asymmetric hydrogenation reactions using a practical in situ generation of chiral ruthenium-diphosphine

catalysts from anhydrous RuCl3

AUTHOR(S):

Madec, J.; Pfister, X.; Phansavath, P.; Ratovelomanana-Vidal, V.; Genet, J.-P.

CORPORATE SOURCE:

Laboratoire de Synthese Selective Organique et Produits Naturels, UMR 7573, Ecole Nationale

Superieure de Chimie de Paris, Paris, 75231, Fr.

SOURCE:

Tetrahedron (2001), 57(13), 2563-2568

CODEN: TETRAB; ISSN: 0040-4020

PUBLISHER:

Elsevier Science Ltd.

DOCUMENT TYPE:

Journal English

LANGUAGE:
OTHER SOURCE(S):

CASREACT 135:60899

AB A very simple in situ preparation of chiral ruthenium-diphosphine catalysts from anhydrous RuCl3 is reported. Prochiral C:O and C:C bonds have been reduced with high enantioselectivities via ruthenium-catalyzed hydrogenation.

IT 133545-16-1 133545-17-2

RL: CAT (Catalyst use); USES (Uses)

(asym. hydrogenation reactions with in situ generation of chiral ruthenium-diphosphine catalysts from anhydrous RuCl3)

RN 133545-16-1 CAPLUS

CN Phosphine, 1,1'-[(1R)-6,6'-dimethoxy[1,1'-biphenyl]-2,2'-diyl]bis[1,1-diphenyl- (CA INDEX NAME)

RN 133545-17-2 CAPLUS

CN Phosphine, 1,1'-[(1S)-6,6'-dimethoxy[1,1'-biphenyl]-2,2'-diyl]bis[1,1-diphenyl- (CA INDEX NAME)

REFERENCE COUNT: 26 THERE ARE 26 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L3 ANSWER 148 OF 212 CAPLUS COPYRIGHT 2007 ACS on STN

ACCESSION NUMBER:

2001:207048 CAPLUS

DOCUMENT NUMBER:

135:19689

TITLE:

A practical synthetic approach to chiral α -aryl

substituted ethylphosphonates

AUTHOR(S):

Goulioukina, Natalia S.; Dolgina, Tat'yana M.; Beletskaya, Irina P.; Henry, Jean-Christophe; Lavergne, Damien; Ratovelomanana-Vidal, Virginie;

Genet, Jean-Pierre

CORPORATE SOURCE:

Department of Chemistry, Moscow State University,

Moscow, 119899, Russia

SOURCE:

Tetrahedron: Asymmetry (2001), 12(2), 319-327

CODEN: TASYE3; ISSN: 0957-4166

PUBLISHER:

Elsevier Science Ltd.

DOCUMENT TYPE:

Journal

LANGUAGE: English

OTHER SOURCE(S): CASREACT 135:19689

AB A convenient general method is reported for the synthesis of α -aryl substituted ethylphosphonic acids and esters by hydrogenation of α -aryl substituted ethenylphosphonic acids and esters. Racemic α -arylethylphosphonic acids and esters were prepared in 70-88% yield under Pd-assisted transfer hydrogenation conditions using ammonium formate. Asym. hydrogenation of α -arylethenylphosphonic acids using chiral Ru(II) catalysts led to α -arylethylphosphonic acids with enantiomeric excesses up to 86%.

IT 133545-16-1 145214-57-9

RL: CAT (Catalyst use); USES (Uses) (asym. hydrogenation of arylethenylphosphonic acids in presence of

chiral ruthenium bisphosphine catalysts)

RN 133545-16-1 CAPLUS

CN Phosphine, 1,1'-[(1R)-6,6'-dimethoxy[1,1'-biphenyl]-2,2'-diyl]bis[1,1-diphenyl- (CA INDEX NAME)

RN 145214-57-9 CAPLUS

CN Phosphine, [(1R)-6,6'-dimethoxy[1,1'-biphenyl]-2,2'-diyl]bis[di-2-furanyl-(9CI) (CA INDEX NAME)

REFERENCE COUNT:

65 THERE ARE 65 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L3 ANSWER 149 OF 212 CAPLUS COPYRIGHT 2007 ACS on STN

ACCESSION NUMBER:

2001:125139 CAPLUS

DOCUMENT NUMBER:

134:295952

TITLE:

Synthesis of citronellal by Rhl-catalyzed asymmetric isomerization of N,N-diethyl-substituted geranyl- and nerylamines or geraniol and nerol in the presence of chiral diphosphino ligands, under homogeneous and

supported conditions

AUTHOR(S):

Chapuis, Christian; Barthe, Michel; De Saint Laumer,

Jean-Yves

CORPORATE SOURCE:

Corporate R&D Division, Firmenich SA, Geneva,

CH-1211/8, Switz.

SOURCE:

Helvetica Chimica Acta (2001), 84(1), 230-242

CODEN: HCACAV; ISSN: 0018-019X Verlag Helvetica Chimica Acta

PUBLISHER: DOCUMENT TYPE:

Journal English

LANGUAGE: OTHER SOURCE(S):

CASREACT 134:295952

GT

Ι

AB For the asym. isomerization of geranyl- or neryldiethylamine, I (R1 = Me, R2 = Me2CCH(CH2)2, X = Et2N), and I (R1 = Me2CCH(CH2)2, R2 = Me, X = Et2N), resp. and allyl alcs. geraniol or nerol, I (R1 = Me, R2 = Me2CCH(CH2)2, X = OH), and I (R1 = Me2CCH(CH2)2, R2 = Me, X = OH), resp. to citronellal in the presence of a [Rh1(ligand)cycloocta-1,5-diene]+ catalyst, atropic ligands are compared under homogeneous and polymer-supported conditions with non-C2-sym. diphosphino ferrocene ligands. Silica-gel- or polymer-supported diphosphino ligands usually afford similar selectivity as compared to the corresponding ligands applied under homogeneous conditions, but are generally less reactive. In this context, a polymer-supported ligand of interest is the polymer-anchored (R)-binap, in terms of reactivity, selectivity, and recoverability, with a turnover of more than 14400.

IT 133545-17-2

RL: CAT (Catalyst use); RCT (Reactant); RACT (Reactant or reagent); USES (Uses)

(synthesis of citronellal by Rh1-catalyzed asym. isomerization of N,N-diethyl-substituted geranyl- and nerylamines or geraniol and nerol in the presence of chiral diphosphino ligands, under homogeneous and supported conditions)

RN 133545-17-2 CAPLUS

CN Phosphine, 1,1'-[(1S)-6,6'-dimethoxy[1,1'-biphenyl]-2,2'-diyl]bis[1,1-diphenyl- (CA INDEX NAME)

IT 151395-62-9P
 RL: CAT (Catalyst use); RCT (Reactant); SPN (Synthetic preparation); PREP
 (Preparation); RACT (Reactant or reagent); USES (Uses)
 (synthesis of citronellal by Rh1-catalyzed asym. isomerization of
 N,N-diethyl-substituted geranyl- and nerylamines or geraniol and nerol
 in the presence of chiral diphosphino ligands, under homogeneous and
 supported conditions)

RN 151395-62-9 CAPLUS
CN [1,1'-Biphenyl]-2,2'-diol, 6,6'-bis(diphenylphosphino)-, (1S)- (9CI) (CA
INDEX NAME)

IT 333998-29-1DP, TentaGel S-Br-polymer supported
 334018-49-4DP, TentaGel S-COOH ester support 334474-02-1P
 RL: CAT (Catalyst use); SPN (Synthetic preparation); PREP (Preparation);
 USES (Uses)
 (synthesis of citronellal by Rh1-catalyzed asym. isomerization of
 N,N-diethyl-substituted geranyl- and nerylamines or geraniol and nerol
 in the presence of chiral diphosphino ligands, under homogeneous and
 supported conditions)
RN 333998-29-1 CAPLUS

CN Poly(oxy-1,2-ethanediyl), α -[(1S)-2',6-bis(diphenylphosphino)-6'-hydroxy[1,1'-biphenyl]-2-yl]- ω -hydroxy- (9CI) (CA INDEX NAME)

334018-49-4 CAPLUS RN

CN

Poly(oxy-1,2-ethanediyl), α -[2-[[4-[[(1S)-2',6bis(diphenylphosphino)-6'-hydroxy[1,1'-biphenyl]-2-yl]oxy]-1,4dioxobutyl]amino]ethyl]-ω-hydroxy- (9CI) (CA INDEX NAME)

334474-02-1 CAPLUS RN

Phosphine, [(1S)-6,6'-bis[(trimethylsilyl)oxy][1,1'-biphenyl]-2,2'-CN diyl]bis[diphenyl- (9CI) (CA INDEX NAME)

REFERENCE COUNT:

THERE ARE 105 CITED REFERENCES AVAILABLE FOR 105 THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

CAPLUS COPYRIGHT 2007 ACS on STN ANSWER 150 OF 212

ACCESSION NUMBER:

2001:28618 CAPLUS

DOCUMENT NUMBER:

134:86384

TITLE:

Process for the racemization of atropisomeric

bis (phosphine oxide) compounds

INVENTOR(S):

Kienzle, Frank; Lalonde, Michel; Schmid, Rudolf; Wang,

Shaoning

PATENT ASSIGNEE(S):

F. Hoffmann-La Roche A.-G., Switz.

SOURCE:

Eur. Pat. Appl., 12 pp. CODEN: EPXXDW

DOCUMENT TYPE:

Patent

LANGUAGE:

English

FAMILY ACC. NUM. COUNT:

PATENT INFORMATION:

PATENT NO.	KIND DATE	APPLICATION NO.	DATE			
	71 20010110	EP 2000-114219	20000703			
EP 1067133	A1 20010110	EP 2000-114219	20000703			
EP 1067133	B1 20030917					
R: AT, BE, CH,	DE, DK, ES, FR,	GB, GR, IT, LI, LU, NL,	SE, MC, PT,			
IE, SI, LT,	LV, FI, RO					
US 6288280	B1 20010911	us 2000-594643	20000615			
AT 250072	T 20031015	AT 2000-114219	20000703			

ES 2204411	Т3	20040501	ES	2000-114219		20000703
CA 2313338	A1	20010109	CA	2000-2313338		20000704
JP 2001039993	A	20010213	JP	2000-203499		20000705
JP 3688563	В2	20050831			•	
CN 1281860	Α	20010131	CN	2000-120417		20000707
BR 2000002650	Α	20010313	BR	2000-2650		20000707
PRIORITY APPLN. INFO.:			EP	1999-113306	Α	19990709
OTHER SOURCE(S):	MARPAT	134:86384				
GT						

The present invention is concerned with a novel process for the racemization of atropisomeric bis(phosphine oxide) compds. I (R1 = C1-8 alkoxy, R2 = H, C1-8 alkyl, C1-8 alkoxy, R1R2 = methylenedioxy, ethylenedioxy; R3 = H, C1-8 alkyl, C1-8 alkoxy; R4 = (un)substituted Ph) in their (S) or (R) or non-racemic form, for the preparation of optical active bisphosphine ligands, which form optical active complexes with transition metals are formed. These complexes are used as catalysts in a number of asym. reactions. The racemization is thermal and carried out in high or low boiling solvent, under normal or elevated pressure at 105 to 3.5x107 Pa. The heating is performed in a system which allows heating up to 400° (reactor, autoclave, aluminum block, round-bottom flask with heating/stirring mantle and the like) or by microwave irradiation or in the melt at a temperature from 260-400°, preferably from 280-380°, batchwise or in a continuous manner.

IT 133545-15-0P, (RS)-MeOBIPHEPO 133545-18-3P, (RS)-DiMeOBIPHEPO 133545-23-0P, (RS)-p-Tol-MeOBIPHEPO RL: SPN (Synthetic preparation); PREP (Preparation) (preparation of)

RN 133545-15-0 CAPLUS

CN Phosphine oxide, (6,6'-dimethoxy[1,1'-biphenyl]-2,2'-diyl)bis[diphenyl-(9CI) (CA INDEX NAME)

RN 133545-18-3 CAPLUS
CN Phosphine oxide, (5,5',

Phosphine oxide, (5,5',6,6'-tetramethoxy[1,1'-biphenyl]-2,2'-diyl)bis[diphenyl- (9CI) (CA INDEX NAME)

RN 133545-23-0 CAPLUS

CN Phosphine oxide, (6,6'-dimethoxy[1,1'-biphenyl]-2,2'-diyl)bis[bis(4-methylphenyl)- (9CI) (CA INDEX NAME)

PAGE 1-A

PAGE 2-A

RN 133577-84-1 CAPLUS
CN Phosphine oxide, [(1S)-6,6'-dimethoxy[1,1'-biphenyl]-2,2'-diyl]bis[diphenyl- (9CI) (CA INDEX NAME)

RN 133577-86-3 CAPLUS
CN Phosphine oxide, [(1S)-5,5',6,6'-tetramethoxy[1,1'-biphenyl]-2,2'-diyl]bis[diphenyl- (9CI) (CA INDEX NAME)

RN 133577-87-4 CAPLUS
CN Phosphine oxide, [(1R)-5,5',6,6'-tetramethoxy[1,1'-biphenyl]-2,2'-diyl]bis[diphenyl- (9CI) (CA INDEX NAME)

RN 133577-89-6 CAPLUS
CN Phosphine oxide, [(1S)-6,6'-dimethoxy[1,1'-biphenyl]-2,2'-diyl]bis[bis(4-methylphenyl)- (9CI) (CA INDEX NAME)

3

REFERENCE COUNT:

THERE ARE 3 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L3 ANSWER 151 OF 212 CAPLUS COPYRIGHT 2007 ACS on STN

ACCESSION NUMBER:

2000:900235 CAPLUS

DOCUMENT NUMBER:

134:58205

TITLE:

Stereospecific isomerisation of allylamines with the

aid of immobilised phosphorated chiral ligands

INVENTOR(S):

Chapuis, Christian Firmenich S.A., Switz.

PATENT ASSIGNEE(S): SOURCE:

Eur. Pat. Appl., 15 pp.

CODEN: EPXXDW

DOCUMENT TYPE:

Patent

LANGUAGE:

English

FAMILY ACC. NUM. COUNT:

PATENT INFORMATION:

PATENT NO.	KİND	DATE	APPLICATION NO.	DATE
EP 1060793	A1	20001220	EP 2000-111333	20000526
EP 1060793	B1	20050615		an wa nm
R: AT, BE, CH,	-		GR, IT, LI, LU, NL,	SE, MC, PT,
IE, SI, LT,	TV, ET	, RO 20050715	AT 2000-111333	20000526
AT 297807 ES 2243171	т3	20050713	ES 2000-111333	20000526
us 6350910	B1	20020226	US 2000-588687	20000607
JP 2001011029	A	20010116	JP 2000-182162	20000616
RIORITY APPLN. INFO.:			CH 1999-1131	A 19990617
THER SOURCE(S):	MARPAT	134:58205		

OTHER SOURCE(S):

MARPAT 134:582U5

The present invention describes a method for stereospecific isomerization of prochiral allylamines into enamines and chiral imines, by using catalysts of Rh, Ir and Ru having phosphine chiral ligands immobilized on a solid material. The immobilized ligands are derivs. of phosphines of the type bis(diphenylphosphino) biaryl such as, for example, the phosphine known by the name BINAP. The method is particularly suitable for the production of optically active citronellal which may be obtained in optical purities above 95%. Neryldiethylamine was isomerized to (+)-citronella using [Rh(COD)2]+SO3CF3- and a ligand comprising (-)-(S)-6, 6'-Bis(diphenylphosphino) biphenyl-2,2'-diol supported on Tentagel as catalysts.

IT 151395-62-9P

RL: CAT (Catalyst use); IMF (Industrial manufacture); PREP (Preparation); USES (Uses)

(stereospecific isomerisation of allylamines with the aid of immobilized phosphorated chiral ligands)

RN 151395-62-9 CAPLUS

CN [1,1'-Biphenyl]-2,2'-diol, 6,6'-bis(diphenylphosphino)-, (1S)- (9CI) (CF INDEX NAME)

IT 133577-92-1

RL: RCT (Reactant); RACT (Reactant or reagent)
(stereospecific isomerisation of allylamines with the aid of immobilized phosphorated chiral ligands)

RN 133577-92-1 CAPLUS

CN Phosphine, (6,6'-dimethoxy[1,1'-biphenyl]-2,2'-diyl)bis[diphenyl- (9CI)

REFERENCE COUNT:

THERE ARE 5 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

CAPLUS COPYRIGHT 2007 ACS on STN ANSWER 152 OF 212 L3

5

ACCESSION NUMBER:

CORPORATE SOURCE:

2000:863119 CAPLUS

DOCUMENT NUMBER:

134:115780

TITLE:

An efficient formal synthesis of (-)-balanol by using

ruthenium-catalyzed asymmetric hydrogenation

AUTHOR(S):

Phansavath, Phannarath; De Paule, Sebastien Duprat; Ratovelomanana-Vidal, Virginie; Genet, Jean-Pierre

Ecole Nationale Superieure de Chimie de Paris,

Laboratoire de Synthese Selective Organique et Produits Naturels, U.M.R. 7573, Paris, 75231, Fr.

European Journal of Organic Chemistry (2000), (23),

SOURCE: 3903-3907

CODEN: EJOCFK; ISSN: 1434-193X

Wiley-VCH Verlag GmbH PUBLISHER:

DOCUMENT TYPE:

Journal

LANGUAGE:

English

Ι

OTHER SOURCE(S):

CASREACT 134:115780

GI

An efficient formal synthesis of (-)-balanol is reported. The ten-step AΒ sequence leading to a key precursor I features a highly stereoselective synthesis of the functionalized hexa-hydroazepine core through dynamic kinetic resolution of a racemic α -amido β -keto ester using a ruthenium(II)-catalyzed hydrogenation reaction.

133545-16-1, (R)-MeO-BIPHEP ΙT

RL: CAT (Catalyst use); USES (Uses)

(efficient formal synthesis of (-)-balanol via ruthenium-catalyzed asym. hydrogenation)

RN133545-16-1 CAPLUS

Phosphine, 1,1'-[(1R)-6,6'-dimethoxy[1,1'-biphenyl]-2,2'-diyl]bis[1,1-CN diphenyl- (CA INDEX NAME)

REFERENCE COUNT:

THERE ARE 36 CITED REFERENCES AVAILABLE FOR THIS 36 RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

CAPLUS COPYRIGHT 2007 ACS on STN ANSWER 153 OF 212

ACCESSION NUMBER:

2000:845062 CAPLUS 134:100842

DOCUMENT NUMBER: TITLE:

Palladium(0)-catalyzed asymmetric synthesis of

2-vinylmorpholine and 2-vinylpiperazine. Influence of the biscarbonate structure on the enantioselectivity

AUTHOR(S):

Massacret, Magali; Lakhmiri, Rajae; Lhoste, Paul;

Nguefack, Christelle; Ben Abdelouahab, Fouad B.;

Fadel, Rachid; Sinou, Denis

CORPORATE SOURCE:

Laboratoire de Synthese Asymetrique, associe au CNRS,

CPE Lyon, Universite Claude Bernard Lyon 1,

Villeurbanne, 69622, Fr.

SOURCE:

Tetrahedron: Asymmetry (2000), 11(17), 3561-3568

CODEN: TASYE3; ISSN: 0957-4166

PUBLISHER:

Elsevier Science Ltd.

DOCUMENT TYPE:

Journal

LANGUAGE:

English

OTHER SOURCE(S):

CASREACT 134:100842

Palladium-catalyzed cyclization of N,N-bis(p-tolylsulfonyl)-ophenylenediamine and and 2-[(2,4,6-trimethylphenyl)sulfonyl]aminophenol with three allylic biscarbonates gave quite different enantioselectivities. This indicates that the cyclization processes do not have a common intermediate, as in the case of benzene-1,2-diol.

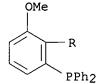
133545-17-2, (S)-MeOBiphep ΙT

RL: CAT (Catalyst use); USES (Uses)

(palladium(0)-catalyzed asym. synthesis of vinylmorpholine and vinylpiperazine)

133545-17-2 CAPLUS RN

Phosphine, 1,1'-[(1S)-6,6'-dimethoxy[1,1'-biphenyl]-2,2'-diyl]bis[1,1-CN diphenyl- (CA INDEX NAME)



REFERENCE COUNT: 23 THERE ARE 23 CITED REFERENCES AVAILABLE FOR THIS

RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L3 ANSWER 154 OF 212 CAPLUS COPYRIGHT 2007 ACS on STN

ACCESSION NUMBER: 2000:698497 CAPLUS

DOCUMENT NUMBER: 134:29170

TITLE: Catalytic asymmetric alkylation in aqueous micelles

AUTHOR(S): Rabeyrin, C.; Nguefack, C.; Sinou, D.

CORPORATE SOURCE: Laboratoire de Synthese Asymetrique, Universite Claude

Bernard Lyon 1, CPE Lyon, Associe au CNRS,

Villeurbanne, 69622, Fr.

SOURCE: Tetrahedron Letters (2000), 41(39), 7461-7464

CODEN: TELEAY; ISSN: 0040-4039

PUBLISHER: Elsevier Science Ltd.

DOCUMENT TYPE: Journal LANGUAGE: English

OTHER SOURCE(S): CASREACT 134:29170

AB Palladium-catalyzed alkylation of 1,3-diphenyl-2-propenyl acetate with di-Me malonate occurred in water in the presence of surfactants, using K2CO3 as the base. Enantioselectivities of up to 92% were obtained using

chiral atropoisomeric diphosphines.

IT 133545-16-1

RL: CAT (Catalyst use); USES (Uses)

(catalytic asym. alkylation in aqueous micelles)

RN 133545-16-1 CAPLUS

CN Phosphine, 1,1'-[(1R)-6,6'-dimethoxy[1,1'-biphenyl]-2,2'-diyl]bis[1,1-diphenyl- (CA INDEX NAME)

L3 ANSWER 155 OF 212 CAPLUS COPYRIGHT 2007 ACS on STN

ACCESSION NUMBER: 2000:696268 CAPLUS

DOCUMENT NUMBER: 134:17429

TITLE: Synthesis of (1S, 3aS) -8-(2, 3, 3a, 4, 5, 6-hexahydro-1H-

phenalen-1-yl)-1-phenyl-1,3,8-triazaspiro[4.5]decan-4-one, a potent and selective orphanin FQ (OFQ) receptor

agonist with anxiolytic-like properties

AUTHOR(S): Wichmann, Jurgen; Adam, Geo; Rover, Stephan; Hennig,

Michael; Scalone, Michelangelo; Cesura, Andrea M.;

Dautzenberg, Frank M.; Jenck, Francois

CORPORATE SOURCE: Pharma Division, Preclinical Research, F. Hoffmann-La

Roche Ltd., Basel, CH-4070, Switz.

SOURCE: European Journal of Medicinal Chemistry (2000), 35(9),

839-851

CODEN: EJMCA5; ISSN: 0223-5234

PUBLISHER: Editions Scientifiques et Medicales Elsevier

DOCUMENT TYPE: Journal LANGUAGE: English

OTHER SOURCE(S): CASREACT 134:17429

AB The development of 8-(2,3,3a,4,5,6-hexahydro-1H-phenalen-1-yl)-1-phenyl-1,3,8-triazaspiro[4.5]decan-4-ones starting from (RS)-8-acenaphten-1-yl-1-phenyl-1,3,8-triazaspiro[4.5]decan-4-one is reported. The synthesis and

the binding affinities at human OFQ (nociceptin) and opioid (μ,κ,δ) receptors of the stereoisomers are described. In

vitro the most selective compound, (1s,3as)-8-(2,3,3a,4,5,6-hexahydro-1H-phenalen-1-yl)-1-phenyl-1,3,8-triaza-spiro[4.5]decan-4-one (I), was found to act as a full agonist at the OFQ receptor in the GTPγ35S binding test. It turned out to be selective vs. a variety of other neurotransmitter systems. When tested in vivo following i.p. injection, compound I was found to decrease neophobia in a novel environment and to exhibit dose-dependent anxiolytic-like effects in the elevated plus-maze

procedure, thus confirming the effects observed following intracerebroventricular infusion of the OFQ peptide in rat.

IT 133545-17-2

RL: CAT (Catalyst use); USES (Uses) (preparation of (phenalenyl) (phenyl) -1,3,8-triazaspiro[4.5]decan-4-one (selective orphanin FQ receptor agonist with anxiolytic-like properties))

RN 133545-17-2 CAPLUS

CN Phosphine, 1,1'-[(1S)-6,6'-dimethoxy[1,1'-biphenyl]-2,2'-diyl]bis[1,1-diphenyl- (CA INDEX NAME)

L3 ANSWER 156 OF 212 CAPLUS COPYRIGHT 2007 ACS on STN

ACCESSION NUMBER:

CORPORATE SOURCE:

2000:574233 CAPLUS

DOCUMENT NUMBER:

133:309942

TITLE:

Synthesis of Chiral Bisphosphines with Tunable Bite

Angles and Their Applications in Asymmetric

Hydrogenation of $\beta ext{-Ketoesters}$

AUTHOR(S):

Zhang, Zhaoguo; Qian, Hu; Longmire, James; Zhang, Xumu

Department of Chemistry, The Pennsylvania State

University, University Park, PA, 16802, USA

Journal of Organic Chemistry (2000), 65(19), 6223-6226

CODEN: JOCEAH; ISSN: 0022-3263

PUBLISHER:

SOURCE:

American Chemical Society

DOCUMENT TYPE:

Journal English

LANGUAGE: OTHER SOURCE(S):

CASREACT 133:309942

GΙ

Ι

As series of chiral bisphosphines I (n = 1-6) with tunable dihedral angles were prepared for the first time and used for Ru-catalyzed asym. hydrogenation of β -ketoesters. Enantioselectivities with the Ru-I (n = 4) catalyst are comparable or better than those observed with Ru-BINAP and Ru-MeO-BIPHEP complexes, while enantioselectivities in asym. hydrogenation of β -ketoesters are low with other catalysts e.g., Ru-I (n = 1, 6). The current study demonstrates the concept that changes in ligand dihedral angles indeed cause significant variations of enantioselectivity.

IT 151395-61-8P

RL: CAT (Catalyst use); RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent); USES (Uses)

(preparation and cyclization with dibromoalkane)

RN 151395-61-8 CAPLUS

CN [1,1'-Biphenyl]-2,2'-diol, 6,6'-bis(diphenylphosphino)-, (1R)- (CA INDEX NAME)

IT 133545-16-1P

RL: CAT (Catalyst use); RCT (Reactant); SPN (Synthetic preparation); PREP

IT 133577-82-9

RL: RCT (Reactant); RACT (Reactant or reagent)

(reduction of) 133577-82-9 CAPLUS

RN 133577-82-9 CAPLUS
CN Phosphine oxide, (6,6'-dimethoxy[1,1'-biphenyl]-2,2'-diyl)bis[diphenyl-,
(1R)- (9CI) (CA INDEX NAME)

REFERENCE COUNT: 35 THERE ARE 35 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L3 ANSWER 157 OF 212 CAPLUS COPYRIGHT 2007 ACS on STN

ACCESSION NUMBER: 2000:537652 CAPLUS

DOCUMENT NUMBER: 133:281892

DOCUMENT NUMBER: 133:281892

TITLE: Electronically and Sterically Induced Structural

Distortions in Square-Planar d8 Complexes

AUTHOR(S): Magistrato, Alessandra; Merlin, Massimo; Pregosin, Paul S.; Rothlisberger, Ursula; Albinati, Alberto

CORPORATE SOURCE: Laboratory of Inorganic Chemistry, ETH Zentrum,

Zurich, CH-8092, Switz.

SOURCE: Organometallics (2000), 19(18), 3591-3596

CODEN: ORGND7; ISSN: 0276-7333

PUBLISHER: American Chemical Society

DOCUMENT TYPE: Journal

LANGUAGE: English

AB The solid-state structure of the cationic MeO-Biphep Rh(I) compound

[Rh((S)-MeO-Biphep)(P{OMe}3)2]BF4 (3) was determined by x-ray diffraction. The four P-donors deviate markedly from square-planar geometry, with the phosphite ligands P2 and P2' ca. ±0.61(7) Å from the P1-Rh-P1' plane. This distortion resembles that found for PdBr(p-NCC6H4)((S)-MeO-Biphep) (1). D. functional calcns. on systematically varied models of 1 reveal three major components to be responsible for the observed distortion from square-planar geometry: (i) attractive aromatic ring π - π interactions, (ii) electronic stabilization of coplanar aromatic rings in pseudo-trans positions, and (iii) P-Ph and MeO-Biphep-Ph intraligand repulsive steric interactions. Addnl. DFT studies on the p-tolyl-Binap analog of 1, PdBr(p-NCC6H4)((R)-p-Tol-Binap) (2), explain the source of the extremely long Pd-P2 bond distance, 2.437(1) Å, in 2. Despite the structural similarity between 1 and 2, the calcns. rationalize the observation of a pronounced distortion from a square-planar geometry in the former that is essentially absent in the latter.

IT 133545-17-2, (S)-MeO-Biphep

RL: RCT (Reactant); RACT (Reactant or reagent)

(substitution reaction of cyclooctadienerhodium cation complex)

RN 133545-17-2 CAPLUS

CN Phosphine, 1,1'-[(1S)-6,6'-dimethoxy[1,1'-biphenyl]-2,2'-diyl]bis[1,1-diphenyl- (CA INDEX NAME)

REFERENCE COUNT:

THERE ARE 48 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L3 ANSWER 158 OF 212 CAPLUS COPYRIGHT 2007 ACS on STN

ACCESSION NUMBER:

2000:508701 CAPLUS

DOCUMENT NUMBER:

133:266282

TITLE:

SOURCE:

Asymmetric synthesis of fluorinated $\beta\text{--hydroxy}$ esters via ruthenium-mediated hydrogenation

AUTHOR(S):

Blanc, D.; Ratovelomanana-Vidal, V.; Gillet, J.-P.;

Genet, J.-P.

CORPORATE SOURCE:

Laboratoire de Synthese Selective Organique et

Produits Naturels, Associe au CNRS (UMR 7573), Ecole. Nationale Sup. De Chimie de Paris, Paris, 75231, Fr. Journal of Organometallic Chemistry (2000), 603(1),

128-130

CODEN: JORCAI; ISSN: 0022-328X

PUBLISHER:

Elsevier Science S.A.

DOCUMENT TYPE:

Fisevier Scrence 3.4

DOCUMENT TIPE:

Journal

LANGUAGE:

English

OTHER SOURCE(S):

C(S): CASREACT 133:266282

AB The homogeneous asym. hydrogenation reactions of fluorinated $\beta\text{-keto}$ esters using ruthenium(II) complexes bearing atropoisomeric diphosphines such as BINAP and MeO-BIPHEP have yielded the corresponding $\beta\text{-hydroxy}$

esters in quant. yield with 42-°95% enantiomeric excess. For example, the bis $(\eta 3-2-methylpropenyl)$ (1,5cyclooctadiene) ruthenium/[(1R)-6,6'-dimethoxy[1,1'-biphenyl]-2,2'diyl]bis[diphenylphosphine]-catalyzed hydrogenation of 4,4,4-trifluoro-3-oxobutanoic acid Et ester gave (3S)-4,4,4-trifluoro-3hydroxybutanoic acid Et ester. On the other hand, the bis (n3-2-methylpropenyl) (1,5-cyclooctadiene) ruthenium/[(1S)-6,6'dimethoxy[1,1'-biphenyl]-2,2'-diyl]bis[diphenylphosphine]-catalyzed hydrogenation gave (3R)-4,4,4-trifluoro-3-hydroxybutanoic acid Et ester. 133545-16-1, [(1R)-6,6'-Dimethoxy[1,1'-biphenyl]-2,2'-IT diyl]bis[diphenylphosphine] 133545-17-2, [(1S)-6,6'-Dimethoxy[1,1'-biphenyl]-2,2'-diyl]bis[diphenylphosphine] RL: CAT (Catalyst use); USES (Uses) (preparation of chiral fluoro- β -hydroxy esters via ruthenium-mediated stereoselective hydrogenation of fluoro- β -oxo esters) RN 133545-16-1 CAPLUS Phosphine, 1,1'-[(1R)-6,6'-dimethoxy[1,1'-biphenyl]-2,2'-diyl]bis[1,1-CN diphenyl- (CA INDEX NAME)

RN 133545-17-2 CAPLUS
CN Phosphine, 1,1'-[(1S)-6,6'-dimethoxy[1,1'-biphenyl]-2,2'-diyl]bis[1,1-diphenyl- (CA INDEX NAME)

REFERENCE COUNT:

28 THERE ARE 28 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L3 ANSWER 159 OF 212 CAPLUS COPYRIGHT 2007 ACS on STN ACCESSION NUMBER: 2000:374249 CAPLUS

DOCUMENT NUMBER:

133:150755

TITLE:

Asymmetric synthesis of hydroxylated pyrrolizidine,

indolizidine, and $(+)-\alpha$ -conhydrine via

ruthenium-catalyzed hydrogenation

AUTHOR(S):

Guerreiro, Patricio; Ratovelomanana-Vidal, Virginie;

Genet, Jean-Pierre

CORPORATE SOURCE:

Laboratoire de Synthese Selective Organique et

Produits Naturels, Paris, F-75231, Fr. Chirality (2000), 12(5/6), 408-410

SOURCE: Chirali

CODEN: CHRLEP; ISSN: 0899-0042

Wiley-Liss, Inc.

PUBLISHER:
DOCUMENT TYPE:

Journal

LANGUAGE:

English

ΙI

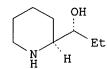
OTHER SOURCE(S):

CASREACT 133:150755

GT



N OH



Ι

III

AB The enantioselective ruthenium promoted hydrogenation of β -keto ester, derived from (S)- or (R)-proline and (S)-pipecolic acid, provided a new efficient route to hydroxylated pyrrolizidine, e.g. I, or indolizidine, e.g. II, ring systems in diastereomeric excesses up to 99%. A practical synthesis of (+)- α -conhydrine (III) is also reported.

IT 133545-16-1, (R)-MeO-BIPHEP 133545-17-2, (S)-MeO-BIPHEP

RL: CAT (Catalyst use); USES (Uses)

(asym. synthesis of hydroxylated pyrrolizidine, indolizidine, and $(+)-\alpha$ -conhydrine via ruthenium-catalyzed hydrogenation)

RN 133545-16-1 CAPLUS

CN Phosphine, 1,1'-[(1R)-6,6'-dimethoxy[1,1'-biphenyl]-2,2'-diyl]bis[1,1-diphenyl- (CA INDEX NAME)

RN 133545-17-2 CAPLUS

CN Phosphine, 1,1'-[(1S)-6,6'-dimethoxy[1,1'-biphenyl]-2,2'-diyl]bis[1,1-diphenyl- (CA INDEX NAME)

REFERENCE COUNT:

31 THERE ARE 31 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

CAPLUS COPYRIGHT 2007 ACS on STN ANSWER 160 OF 212

ACCESSION NUMBER:

2000:351206 CAPLUS

DOCUMENT NUMBER:

133:4801

TITLE:

Preparation of chiral diphenyldiphosphines and d-8 metal complexes thereof as hydrogenation catalysts Pugin, Benoit; Steiner, Ivo; Aufdenblatten, Rhony

INVENTOR(S):

Niklaus; Togni, Antonio

PATENT ASSIGNEE(S): SOURCE:

Solvias A.-G., Switz. Eur. Pat. Appl., 30 pp.

CODEN: EPXXDW

DOCUMENT TYPE:

Patent

LANGUAGE:

English

FAMILY ACC. NUM. COUNT:

PATENT INFORMATION:

	PA'	TENT	NO.			KIND DATE			APPLICATION NO.							DATE				
		1002				A1		2000		E	 P	1999-	1228	 365			19	991	1:17	
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		R:	ΑT,	BE,	CH,	DE,	DK,	ES,	FR,	GB, G	GR	R, IT,	LI,	, LU,	ΝL,	SE	Ξ,	MC,	PT,	
			IE,	SI,	LT,	LV,	FΙ,	RO												
	CA	2290	0009			A1		2000	0519	C.	Ą	1999-	2290	0009			19	991:	117	
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	AT	2432	216			${f T}$		2003	0715	A.	Г	1999-	1228	365			19	991	117	
	JP	2000	1541	56		Α		2000	0606	JI	2	1999-	3289	983			19	991	119	
	US	2001	.0562	10		A1		2001	1227	US	3	2001-	8992	205			20	010	706	
	US	6515	183			В2		2003	0204										•	
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OTHER SOURCE(S):

MARPAT 133:4801

GΙ

The preparation of title compds., I (R6, R7 = same or different secondary phosphino; R8 = CH2OH, CH2NH2, CH2-O-B-FU, CH2-NH2-B-FU, O-B-FU; R9 = same as R8 or C1-4 alkyl, C1-4 alkoxy; R8R9 = HOCH(CH2O)2, H2NCH(CH2O)2, FU-B-OCH(CH2O)2, FU-B-HNCH(CH2O)2; B = bridging group; FU = functional group), useful as cocatalysts for hydrogenation reaction, is described. The compds. may be bonded to inorg. or organic carriers. Their d-8 metal complexes are valuable catalysts for the enantioselective hydrogenation of prochiral organic compds. with carbon multiple bonds or carbon/hetero atom multiple bonds. Thus, reaction of (S)-6,6'-dihydroxydiphenyl-2,2'-diphenyldiphosphine with epibromohydrin in MeCN gave 32.7% title compound II, which was immobilized on silica gel to give the cocatalyst. Hydrogenation of acetamidocinnamic acid with [Rh(NBD)2]BF4 catalyst and above cocatalyst is described.

IT 270253-51-5P

RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)

(preparation of chiral diphenyldiphosphines and their d-8 metal complexes as hydrogenation catalysts)

RN 270253-51-5 CAPLUS

CN 1-Propanamine, 3,3'-[[(1S)-6,6'-bis(diphenylphosphino)[1,1'-biphenyl]-2,2'-diyl]bis(oxy)]bis-(9CI) (CA INDEX NAME)

IT 151395-61-8 151395-62-9 270253-34-4

RL: RCT (Reactant); RACT (Reactant or reagent)

(reaction with epibromohydrin)

RN 151395-61-8 CAPLUS

CN [1,1'-Biphenyl]-2,2'-diol, 6,6'-bis(diphenylphosphino)-, (1R)- (CA INDEX NAME)

RN 151395-62-9 CAPLUS

CN [1,1'-Biphenyl]-2,2'-diol, 6,6'-bis(diphenylphosphino)-, (1S)- (9CI) (CA INDEX NAME)

RN 270253-34-4 CAPLUS

CN [1,1'-Biphenyl]-2,2'-diol, 6,6'-bis(diphenylphosphino)- (9CI) (CA INDEX NAME)

REFERENCE COUNT:

9 THERE ARE 9 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L3 ANSWER 161 OF 212 CAPLUS COPYRIGHT 2007 ACS on STN

ACCESSION NUMBER:

2000:199548 CAPLUS

DOCUMENT NUMBER:

133:58698

TITLE:

Enantioselective synthesis of tetrahydroisoquinolines and benzazepines by silane terminated Heck reactions with the chiral ligands (+)-TMBTP and (R)-BITIANP

Tietze, Lutz F.; Thede, Kai; Schimpf, Ralph;

Sannicolo, Franco

CORPORATE SOURCE:

Institut fur Organische Chemie der Universitat

Gottingen, Gottingen, D-37077, Germany

SOURCE:

Chemical Communications (Cambridge) (2000), (7),

583-584

CODEN: CHCOFS; ISSN: 1359-7345

PUBLISHER:

AUTHOR(S):

Royal Society of Chemistry

DOCUMENT TYPE:

Journal English

LANGUAGE: OTHER SOURCE(S):

CASREACT 133:58698

* STRUCTURE DIAGRAM TOO LARGE FOR DISPLAY - AVAILABLE VIA OFFLINE PRINT *

The intramol. Heck reaction of the iodoaryl compound I (R = MeO, n = 1) with a (Z)-allylsilane moiety in the presence of the chiral ligand (+)-TMBTP [(+)-II] leads to the benzazepine III (R = H) with 92% ee, whereas I (R = H) MeO, n = 1) with an (E)-allylsilane moiety in the presence of the chiral ligand (R)-BITIANP [(R)-IV] gives III (R = SiMe3) with 91% ee; in a similar way, I (R = H, MeO; n = 0) were transformed in the presence of (+)-II into the tetrahydroisoquinolines V (R = H, MeO) with 86 and 84% ee, resp.

IT 133545-16-1

RL: CAT (Catalyst use); USES (Uses)

(asym. synthesis of tetrahydroisoquinolines and -benzazepines by silane-terminated Heck reactions with chiral ligands)

133545-16-1 CAPLUS RN

Phosphine, 1,1'-[(1R)-6,6'-dimethoxy[1,1'-biphenyl]-2,2'-diyl]bis[1,1-CN diphenyl- (CA INDEX NAME)

REFERENCE COUNT:

THERE ARE 19 CITED REFERENCES AVAILABLE FOR THIS 19 RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

ANSWER 162 OF 212 CAPLUS COPYRIGHT 2007 ACS on STN

ACCESSION NUMBER:

2000:83793 CAPLUS

DOCUMENT NUMBER:

132:237040

TITLE:

A Simple and Efficient Enantioselective Synthesis of

2-Alkylidene-3-alkyl-1,4-benzodioxanes by

Palladium-Catalyzed Annulation of Benzene-1,2-diol and

Propargylic Carbonates

AUTHOR(S):

CORPORATE SOURCE:

Labrosse, Jean-Robert; Lhoste, Paul; Sinou, Denis Laboratoire de Synthese Asymetrique associe au CNRS

CPE Lyon, CPE Lyon Universite Claude Bernard Lyon 1,

Villeurbanne, 69622, Fr.

SOURCE:

Organic Letters (2000), 2(4), 527-529

CODEN: ORLEF7; ISSN: 1523-7060

PUBLISHER:

American Chemical Society

DOCUMENT TYPE:

Journal

LANGUAGE:

English

OTHER SOURCE(S): CASREACT 132:237040

AB Benzene-1,2-diol reacts with various propargylic carbonates in the presence of a palladium catalyst and a chiral atropisomeric diphosphine to give 2-alkylidene-3-alkyl-1,4-benzodioxanes in good yields and 56-97% enantiomeric excess.

IT 133545-16-1

RL: CAT (Catalyst use); USES (Uses)
(enantioselective synthesis of alkylidenealkylbenzodioxanes by
palladium-catalyzed annulation of benzenediol and propargylic
carbonates)

RN 133545-16-1 CAPLUS

CN Phosphine, 1,1'-[(1R)-6,6'-dimethoxy[1,1'-biphenyl]-2,2'-diyl]bis[1,1-diphenyl- (CA INDEX NAME)

REFERENCE COUNT: 23 THERE

3 THERE ARE 23 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L3 ANSWER 163 OF 212 CAPLUS COPYRIGHT 2007 ACS on STN

ACCESSION NUMBER:

2000:68200 CAPLUS

DOCUMENT NUMBER:

132:122620

TITLE:

Preparation of chiral lactones by asymmetric hydrogenation using an optically active metal

diphosphine complex.

INVENTOR(S):

Scalone, Michelangelo; Zutter, Ulrich F. Hoffmann-La Roche A.-G., Switz.

PATENT ASSIGNEE(S): SOURCE:

Eur. Pat. Appl., 24 pp.

CODEN: EPXXDW

DOCUMENT TYPE:

Patent English

LANGUAGE:

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PAT	rent	NO.			KIN	D :	DATE		API	PLICAT	'ION	NO.		D	ATE	
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		IE,	SI,	LT,	LV,	FΙ,	RO									
US	6222	039	•	·	в1	•	2001	0424	US	1999-	3492	96		1	9990	707
CA	2277	443			A1		2000	0113	CA	1999-	2277	443		1	9990'	709
KR	2000	0115	95		Α		2000	0225	KR	1999-	2765	5		1	9990'	709
CN	1243	126			Α		2000	0202	CN	1999-	1103	35		1	9990.	712
JP	2000	0445	52		Α		2000	0215	JP	1999-	1970	78		1:	9990.	712
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CN	1495	164			Α		2004	0512	CN	2003-	2003	1555	39	1	9990	712
US	6277	997			В1		2001	0821	US	2000-	6930	56		2	0001	020

PRIORITY APPLN. INFO.:

EP 1998-112951 US 1999-349296 A 19980713 A3 19990707

OTHER SOURCE(S):

CASREACT 132:122620; MARPAT 132:122620

GΙ

$$0$$
 0 R^2 II

Title compds. [I; R1 = alkyl, cycloalkyl; R2 = (benzo-fused) (substituted) 5-6 membered (di)oxo-N-heterocyclyl], were prepared by hydrogenation of (II; variables as above) in the presence of an optically active metal diphosphine complex. Thus, 3-(4-cyclopentylmethyl-5-oxo-2,5-dihydrofuran-3-ylmethyl)-1,5,5-trimethylimidazolidine-2,4-dione (preparation given) was hydrogenated in EtOAc containing Rh[(R)-3,5-iPr-MeOBIPHEP](COD)SbF6 [iPr-MeOBIPHEP = (6,6'-dimethoxybiphenyl-2,2'-diyl)bis[bis(3,5-disopropylphenyl)phosphine]] at 80° and 100 bar for 71 h to give (3R,4R)-3-(4-cyclopentylmethyl-5-oxotetrahydrofuran-3-ylmethyl)-1,5,5-trimethylimidazolidine-2,4-dione in 98.2% enantiomeric excess and 60% yield after recrystn.

yield after recrystn.

IT 133545-16-1 133577-92-1 145214-57-9
192138-05-9 256235-58-2 256235-59-3
256235-60-6 256235-61-7 256390-42-8
256390-44-0 256390-45-1 256390-46-2

256390-47-3 256390-48-4

RL: CAT (Catalyst use); USES (Uses)

(preparation of chiral lactones by asym. hydrogenation using an optically active metal diphosphine complex)

RN 133545-16-1 CAPLUS

CN Phosphine, 1,1'-[(1R)-6,6'-dimethoxy[1,1'-biphenyl]-2,2'-diyl]bis[1,1-diphenyl- (CA INDEX NAME)

RN 133577-92-1 CAPLUS

CN Phosphine, (6,6'-dimethoxy[1,1'-biphenyl]-2,2'-diyl)bis[diphenyl- (9CI) (CA INDEX NAME)

RN 145214-57-9 CAPLUS

CN Phosphine, [(1R)-6,6'-dimethoxy[1,1'-biphenyl]-2,2'-diyl]bis[di-2-furanyl-(9CI) (CA INDEX NAME)

RN 192138-05-9 CAPLUS

CN Phosphine, [(1R)-6,6'-dimethoxy[1,1'-biphenyl]-2,2'-diyl]bis[bis[3,5-bis(1,1-dimethylethyl)phenyl]- (9CI) (CA INDEX NAME)

RN 256235-58-2 CAPLUS

CN Phosphine, (6,6'-dimethoxy[1,1'-biphenyl]-2,2'-diyl)bis[di-2-naphthalenyl-(9CI) (CA INDEX NAME)

RN256235-59-3 CAPLUS

Phosphine, (6,6'-dimethoxy[1,1'-biphenyl]-2,2'-diyl)bis[bis(4-methoxy-3,5-dimethylphenyl)- (9CI) (CA INDEX NAME) CN

PAGE 1-A

RN 256235-60-6 CAPLUS

CN Phosphine, (6,6'-dimethoxy[1,1'-biphenyl]-2,2'-diyl)bis[bis[3,5-bis(1-methylethyl)phenyl]- (9CI) (CA INDEX NAME)

PAGE 1-A

PAGE 2-A

RN 256235-61-7 CAPLUS

CN Phosphine, (6,6'-dimethoxy[1,1'-biphenyl]-2,2'-diyl)bis[bis(3,4,5-trimethoxyphenyl)- (9CI) (CA INDEX NAME)

PAGE 2-A

RN 256390-42-8 CAPLUS

CN Phosphine, [6,6'-dimethoxy[1,1'-biphenyl]-2,2'-diyl]bis[di-2-furanyl-(9CI) (CA INDEX NAME)

OMe

RN 256390-44-0 CAPLUS

CN Phosphine, bis[3,5-bis(1,1-dimethylethyl)phenyl][2'-(diphenylphosphino)-6,6'-dimethoxy[1,1'-biphenyl]-2-yl]- (9CI) (CA INDEX NAME)

RN 256390-45-1 CAPLUS
CN Phosphine, [(1R)-6,6'-dimethoxy[1,1'-biphenyl]-2,2'-diyl]bis[bis[3,5-bis(1-methylethyl)phenyl]- (9CI) (CA INDEX NAME)

RN 256390-46-2 CAPLUS
CN Phosphine, [(1R)-6,6'-dimethoxy[1,1'-biphenyl]-2,2'-diyl]bis[di-2-naphthalenyl- (9CI) (CA INDEX NAME)

RN 256390-47-3 CAPLUS

CN Phosphine, [(1R)-6,6'-dimethoxy[1,1'-biphenyl]-2,2'-diyl]bis[bis(3,4,5-trimethoxyphenyl)- (9CI) (CA INDEX NAME)

RN 256390-48-4 CAPLUS

CN Phosphine, [(1R)-6,6'-dimethoxy[1,1'-biphenyl]-2,2'-diyl]bis[bis(4-methoxy-3,5-dimethylphenyl)- (9CI) (CA INDEX NAME)

REFERENCE COUNT:

18. THERE ARE 18 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L3 ANSWER 164 OF 212 CAPLUS COPYRIGHT 2007 ACS on STN

ACCESSION NUMBER:

2000:53646 CAPLUS

DOCUMENT NUMBER:

132:108101

TITLE:

Biaryl phosphine and amine ligands for improved

transition metal-catalyzed processes

Buchwald, Stephen; Old, David W.; Wolfe, John P.; INVENTOR(S):

Palucki, Michael; Kamikawa, Ken; Chieffi, Andrew; Sadighi, Joseph P.; Singer, Robert A.; Ahman, Jens

PATENT ASSIGNEE(S): SOURCE:

Massachusetts Institute of Technology, USA

PCT Int. Appl., 397 pp.

CODEN: PIXXD2

DOCUMENT TYPE:

Patent

LANGUAGE:

English

FAMILY ACC. NUM. COUNT:

PATENT INFORMATION:

	PATENT NO.							DATE			APPLICATION NO.									
	WO 2000002887 WO 2000002887 W: CA, JP				A2		20000120			WO 1999-US15450										
			•	BE,	CH,	CY,	DE,	DK,	ES,	FI	, FI	R,	GB,	GR,	IE,	IT,	LU,	MC,	NL,	
	US	6395	916			В1		2002	0528		US	19	98-	1134	78		1	9980	710	
						B1		2001										9990	113	
		6867						2005						2390				9990	127	
		2336						2000	0120		CA	19	99-	2336	691		1	9990	709	
	ΕP	1097	158					2001												
		1097				В1		2006												
		R:		•			DK,	ES,	FR,	GB	, GI	R,	IT,	LI,	LU,	NL,	SE,	MC,	PT,	
				FI,																
	JΡ	2002	5203	28		${f T}$		2002	0709					5591						
PRIO	RITY	APP (LN.	INFO	. :						US	19	98-	1134	78	1	A 1	9980	710	
								_			US	19	98-	1968.	55	i	A 1	9981	120	
								•			US	19	99-	2313	15	1	A 1	9990	113	
											US	19	99-	2390	24	i	A 1	9990	127	
											US	19	97-	6597	0P		P 1	9971	120	
						WO	19	99-1	JS15	450	1	w 1	9990	709						
	9 97	אווסכני	191.			MADI	יייתכ	132.	1081	Λ1										

OTHER SOURCE(S):

MARPAT 132:108101

GI

$$R^{5}$$
 R^{2}
 R^{1}
 R^{2}
 R^{1}
 R^{2}
 R^{3}
 R^{4}
 R^{3}

ΑB The present invention relates to the preparation of novel biaryl phosphine and amine ligands (I) [wherein A and B = independently fused monocyclic or polycyclic cycloalkyl, cycloalkenyl, aryl, or heterocyclic rings of 4-8 atoms; X = NR2, PR2, AsR2, OR, or SR; Y = NR2, PR2, AsR2, OR, SR, SiR3, alkyl, or H; R-R6 = independently H, halogen, (hetero)alkyl, alkenyl, alkynyl, hydroxy, alkoxy, silyloxy, amino, nitro, sulfhydryl, amide, carbonyl, ketone, anhydride, silyl, thioalkyl, ketone, ester, nitrile, (hetero)aryl, etc.] for transition metals and their use in metal-catalyzed carbon-heteroatom and carbon-carbon bond-forming reactions. Unexpected improvements over the prior art were demonstrated in transition

metal-catalyzed aryl amination reactions, Suzuki couplings giving both biaryl and alkylaryl products, arylations and vinylations at the position α to carbonyl groups, and carbon-oxygen bond formation. The ligands and methods of the invention enable transformations utilizing aryl chlorides and bromides at room temperature at synthetically useful rates with extremely small amts. of catalyst relative to the limiting reagent. For example, coupling of p-chlorobenzonitrile and morpholine was catalyzed by 2.5 mol% Pd2(dba)3, 7.5 mol% of 2-(N,N-dimethylamino)-2'- (dicyclohexylphosphino)biphenyl, and NaOBu-t in DME at room temperature to provide 4-(4-morpholinyl)benzonitrile in 96% yield. Thus, the subject processes provide improvements in many features of the transition metal-catalyzed reactions, including the range of suitable substrates, reaction conditions, and efficiency.

IT 133545-16-1

RL: CAT (Catalyst use); USES (Uses)

(catalyst; preparation of biaryl phosphine and amine ligands for improved palladium-catalyzed amination reactions, Suzuki couplings, arylations, vinylations, and carbon-oxygen bond formation reactions)

RN 133545-16-1 CAPLUS

CN Phosphine, 1,1'-[(1R)-6,6'-dimethoxy[1,1'-biphenyl]-2,2'-diyl]bis[1,1-diphenyl- (CA INDEX NAME)

L3 ANSWER 165 OF 212 CAPLUS COPYRIGHT 2007 ACS on STN

ACCESSION NUMBER:

2000:37891 CAPLUS

DOCUMENT NUMBER:

132:93468

TITLE:

Preparation of biphenyl diphosphine oxide by

lithiation and oxidative coupling of phenylphosphine

oxide

INVENTOR(S):

Yokozawa, Susumu; Saito, Takao; Sayo, Noboru;

Ishizaki, Takeo

PATENT ASSIGNEE(S):

Takasago Perfumery Co., Ltd., Japan

Jpn. Kokai Tokkyo Koho, 14 pp.

CODEN: JKXXAF

DOCUMENT TYPE:

Patent

LANGUAGE:

SOURCE:

Japanese

FAMILY ACC. NUM. COUNT:

1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
				-
JP 2000016997	Α	20000118	JP 1998-181027	19980626
JP 3146187	В2	20010312	•	
PRIORITY APPLN. INFO.:			JP 1998-181027	19980626
OTHER SOURCE(S):	CASREA	CT 132:93468	; MARPAT 132:93468	

$$R^3$$
 R^4
 R^2-X
 $P(O) (R^1)_2$
 R^3
 R^4
 R^2-X
 $P(O) (R^1)_2$
 R^3
 R^4
 R^2-X
 R^4
 R^2-X
 R^4
 R^4
 R^2-X
 R^3
 R^4
 The title compds. [I; R1 = cycloalkyl, (un) substituted Ph, naphthyl, AΒ pyridyl, quinolyl, isoquinolyl, furfuryl, benzofurfuryl, thienyl, or benzothienyl; R2 = lower alkyl, lower ether, lower haloalkyl, Ph; X = hetero atom; R3, R4 = hydrogen, halogen, lower alkyl, lower alkoxy, di(lower alkyl)amino, lower haloalkyl, Ph; or R2 and R2 or R3 and R4 are linked to each other to form a ring] are prepared by treatment of phosphine oxide (II; R1 - R4, X = same as above) with base followed by dimerization using oxidizing agent. I are useful as intermediates for diphosphine compds. which are ligands of metal coordination compds. for an synthesis catalyst. Thus, a solution of 75.22 g diphenyl(3,4methylenedioxyphenyl)phosphine oxide in 300 mL THF was added dropwise at -10° to -5° to a solution of lithium diisopropylamide prepared by treatment of 40 mL diisopropylamine in THF with 175 mL 1.7 M BuLi solution and stirred at -12° for 15 min to give a lithium reagent which was added to 5.79 g FeCl3 in 150 mL toluene and 150 mL THF under ice-cooling at $8-10^{\circ}$ over 30 min and stirred at room temperature overnight to give 74.8% biphenyl bisphosphine oxide (III).

III

IT 133545-15-0P

RL: SPN (Synthetic preparation); PREP (Preparation) (preparation of biphenyl diphosphine oxide by lithiation and oxidative coupling of phenylphosphine oxide)

RN 133545-15-0 CAPLUS

CN Phosphine oxide, (6,6'-dimethoxy[1,1'-biphenyl]-2,2'-diyl)bis[diphenyl-(9CI) (CA INDEX NAME)

L3 ANSWER 166 OF 212 CAPLUS COPYRIGHT 2007 ACS on STN

ACCESSION NUMBER:

1999:733967 CAPLUS

DOCUMENT NUMBER:

132:49691

TITLE:

Non-linear effects in ruthenium-catalyzed asymmetric

hydrogenation with atropisomeric diphosphines

AUTHOR(S):

Girard, Christian; Genet, Jean-Pierre; Bulliard,

Michel

CORPORATE SOURCE:

Laboratoire Synthese Selective Organique Produits Naturels, Ecole Nationale Superieure Chimie Paris,

Paris, F-75231, Fr.

SOURCE:

European Journal of Organic Chemistry (1999), (11),

2937-2942

CODEN: EJOCFK; ISSN: 1434-193X

PUBLISHER:

Wiley-VCH Verlag GmbH

DOCUMENT TYPE:

Journal

LANGUAGE:

English

OTHER SOURCE(S):

CASREACT 132:49691

AB A strong pos. nonlinear effect (asym. amplification) was found to take

place during asym. hydrogenations using chiral atropisomeric

diphosphine-Ru catalysts. As an example, at atmospheric pressure the use of

50%

ee BINAP to prepare [(binap)Ru(Br)2] give rise to a hydrogenated product with 91% ee. The influence of temperature and H pressure on this effect are presented. These nonlinear effects can be explained on the basis of a hydrogenation mechanism in which diastereomeric dimers as pre-catalytic species are present.

IT 133545-17-2

RL: CAT (Catalyst use); USES (Uses)

(catalyst precursor; nonlinear effects in Ru-catalyzed asym.

hydrogenation with atropisomeric diphosphines)

RN 133545-17-2 CAPLUS

CN Phosphine, 1,1'-[(1S)-6,6'-dimethoxy[1,1'-biphenyl]-2,2'-diyl]bis[1,1-

diphenyl- (CA INDEX NAME)

REFERENCE COUNT: 41 THERE ARE 41 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L3 ANSWER 167 OF 212 CAPLUS COPYRIGHT 2007 ACS on STN

ACCESSION NUMBER:

1999:583928 CAPLUS

DOCUMENT NUMBER:

132:22555

TITLE:

Palladium-catalyzed, asymmetric hetero- and carboannulation of allenes using functionally-

substituted aryl and vinylic iodides

AUTHOR(S):
CORPORATE SOURCE:

Zenner, John M.; Larock, Richard C.

Department of Chemistry, Iowa State University, Ames,

IA, 50011, USA

Journal of Organic Chemistry (1999), 64(20), 7312-7322

SOURCE:

CODEN: JOCEAH; ISSN: 0022-3263

American Chemical Society

PUBLISHER:
DOCUMENT TYPE:

Journal

LANGUAGE:

English

OTHER SOURCE(S):

CASREACT 132:22555

GI

AB Aryl and vinylic iodides, e.g., N-tosyl-2-iodoaniline, with a nucleophilic substituent in the ortho or allylic position, resp., react with 1,2-dienes, e.g., 1,2-cyclotridecadiene, in the presence of a palladium catalyst and a chiral bisoxazoline ligand to afford five- and six-membered ring heterocycles and carbocycles, e.g., I, in good yields and 46-88% enantiomeric excess. The generality of this process has been demonstrated by the use of nucleophilic substituents as varied as tosylamides, alcs., phenols, carboxylic acids, and stabilized carbanions.

IT 133545-17-2

RL: CAT (Catalyst use); USES (Uses)

Ι

(effective catalysts in the palladium-catalyzed asym. hetero- and carbocyclization of allenes with aryl and vinylic iodides)

RN 133545-17-2 CAPLUS

CN Phosphine, 1,1'-[(1S)-6,6'-dimethoxy[1,1'-biphenyl]-2,2'-diyl]bis[1,1-diphenyl- (CA INDEX NAME)

REFERENCE COUNT: 84 THERE ARE 84 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L3 ANSWER 168 OF 212 CAPLUS COPYRIGHT 2007 ACS on STN

ACCESSION NUMBER: 1999:497063 CAPLUS

DOCUMENT NUMBER: 131:286348

TITLE: Asymmetric hydrogenation of 2,4-dioxo esters.

Selective synthesis of 2-hydroxy 4-oxo esters and direct access to chiral 2-hydroxy-4-butyrolactones

AUTHOR(S): Blandin, Veronique; Carpentier, Jean-Francois;

Mortreux, Andre

CORPORATE SOURCE: Laboratoire Catalyse, Ecole Nationale Superieure

Chimie Lille, Villeneuve d'Ascq, F-59652, Fr.

SOURCE: European Journal of Organic Chemistry (1999), (8),

1787-1793

CODEN: EJOCFK; ISSN: 1434-193X

PUBLISHER: Wiley-VCH Verlag GmbH

DOCUMENT TYPE: Journal LANGUAGE: English

OTHER SOURCE(S): English
CASREACT 131:286348

GI

AB 2,4-Dioxo esters RCOCH2COCO2Et (I; R = Me, CMe3, 2-thienyl) are selectively converted into the corresponding optically active 2-hydroxy 4-oxo esters II by hydrogenation with chiral rhodium-aminophosphine-phosphinite catalysts (82-88% ee) or ruthenium-bisphosphine catalysts (52-67% ee). Direct 1-pot hydrogenation of I to the resp. 2-hydroxy-4-butyrolactones III proceeds in high yields. Catalytic activities, chemo-, dia-, and enantioselectivities are strongly dependent

upon the nature of the substrate and the catalyst.

IT 133545-17-2 246223-35-8

RL: CAT (Catalyst use); USES (Uses)

(catalyst containing rhodium cyclooctadiene complex and bisphosphane for asym. hydrogenation of dioxo esters with preparation of hydroxy oxo esters and hydroxybutyrolactones)

RN 133545-17-2 CAPLUS

CN Phosphine, 1,1'-[(1S)-6,6'-dimethoxy[1,1'-biphenyl]-2,2'-diyl]bis[1,1-diphenyl- (CA INDEX NAME)

RN 246223-35-8 CAPLUS

CN Phosphine, [(1S)-6,6'-dimethoxy[1,1'-biphenyl]-2,2'-diyl]bis[dicyclohexyl-(9CI) (CA INDEX NAME)

REFERENCE COUNT:

50 THERE ARE 50 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L3 ANSWER 169 OF 212 CAPLUS COPYRIGHT 2007 ACS on STN

ACCESSION NUMBER:

1999:425600 CAPLUS

DOCUMENT NUMBER:

131:44958

TITLE:

Process for the manufacture of bis(phosphine oxide)

and bis(phosphonate) compounds

INVENTOR(S):

Foricher, Joseph; Schmid, Rudolf F. Hoffmann-La Roche A.-G., Switz.

PATENT ASSIGNEE(S): SOURCE:

Eur. Pat. Appl., 17 pp.

CODEN: EPXXDW

DOCUMENT TYPE:

Patent

LANGUAGE:

English

FAMILY ACC. NUM. COUNT:

PATENT INFORMATION:

	PAT	CENT	NO.			KIN	D DATE	A	PP	LICAT	ION I	NO.		D.	ATE	-
	EP	9261	 52	-		A1	199906	630 E	P.	1998-	1239	96		1	9981	217
	EP	9261	52			В1	200209									
		R:	ΑT,	ΒE,	CH,	DE,	DK, ES, E	FR, GB,	GF	≀, IT,	LI,	LU,	NL,	SE,	MC,	PT,
			IE,	SI,	LT,	LV,	FI, RO									
	US	6162	929			Α	200012	219 U	S	1998-	2126	46		1	9981	215
	AT	2239	23			Т	200209	9 1 5 <i>P</i>	\mathbf{T}	1998-	1239	96		1	9981	217
	ES	2182	211			Т3	200303	301 E	S	1998-	1239	96		1	9981	217
	CA	2256	828			A1	199906	623 C	:A	1998-	2256	828		1	9981	218
•	JP	1124	6576			Α	199909	914 J	Р	1998-	3640	44		1	9981	222
	CN	1224	019			Α	19990	728 C	:N	1998-	1257	86		1	9981	223
	CN	1132	839			В	200312	231								
PRT	ORTTY	YAPP	LN.	INFO	. :			E	ΞP	1997-	1227	20	1	A 1	9971	223
		 -						E	ZР	1998-	1239	96		A 1	9981	217
OTH	ED 9/	אווסכד	191.			CAS	REACT 131	:44958:	MA	RPAT	131:	4495	8			

OTHER SOURCE(S):

GΙ

$$R^{3}$$
 R^{2}
 R^{1}
 $P - (R^{4})_{2}$
 R^{1}
 R^{2}
 R^{1}
 R^{2}
 R^{2}
 R^{3}
 R^{2}
 R^{4}
 R^{2}
 R^{2}
 R^{3}
 R^{5}
 R^{5}
 R^{5}
 R^{6}
 R^{7}
 R^{1}
 R^{2}
 R^{2}
 R^{3}
 R^{5}
 R^{5}
 R^{5}
 R^{6}
 R^{1}
 R^{2}
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 R^{5}
 R^{5}
 R^{5}
 R^{5}
 R^{5}
 R^{5}

Ι

II

A process for the manufacture of bisphosphine oxide compds. I and II (R1, R2 = AΒ H, C1-8 alkyl, (un) substituted Ph, C1-8 alkoxy, phenyloxy, benzyloxy, halo, di-C1-8 alkylamino; R1R2 = fused ring, etc.; R3, R5 = H, C1-8 alkyl, (un) substituted Ph, C1-8 alkoxy, (un) substituted phenyloxy, benzyloxy, halo, di-C1-8 alkylamino; R4 = C1-8 alkoxy, (un) substituted phenyloxy, C1-8 alkyl, C3-7 cycloalkyl, (un) substituted Ph, naphthyl, heteroaryl, etc.; X = 0, S) and bisphosphonates as intermediates for the production of bisphosphine ligands, in which in a single step process (a) a phosphine oxide compound is reacted in an organic solvent at $-70^{\circ}-20^{\circ}$ with 0.5-3 equivalent of a lithium or magnesium amide compound, (b) 0.5-3

equivalent of oxidatively-acting metal salt or metal salt complex are added to the mixture obtained in stage (a) in a temperature range of $-70^{\circ}-20^{\circ}$, with a racemate of a bisphosphine oxide compound being obtained; (c) a racemate cleavage is carried out if desired; and (d) the bisphosphonates obtained in stage (b) or (c) are converted into bisphosphine oxides. Thus, Grignard reaction of 3-bromoanisole with P-chlorodiphenylphosphine in THF followed by H2O2 oxidation gave 88.8% (3-methoxyphenyl)diphenylphosphine

Coupling reaction of (3-methoxyphenyl)diphenylphosphine oxide in the presence of FeCl3 gave title compound I (R1 = OMe, R2, R3 = H, R4 = Ph).

133545-15-0P 133545-18-3P 145209-14-9P IT

RL: SPN (Synthetic preparation); PREP (Preparation) (preparation of)

133545-15-0 CAPLUS

RN Phosphine oxide, (6,6'-dimethoxy[1,1'-biphenyl]-2,2'-diyl)bis[diphenyl-CN (9CI) (CA INDEX NAME)

133545-18-3 CAPLUS RN

Phosphine oxide, (5,5',6,6'-tetramethoxy[1,1'-biphenyl]-2,2'-CN diyl)bis[diphenyl- (9CI) (CA INDEX NAME)

145209-14-9 CAPLUS RN

Phosphonic acid, (6,6'-dimethoxy[1,1'-biphenyl]-2,2'-diyl)bis-, tetraethyl CN ester (9CI) (CA INDEX NAME)

REFERENCE COUNT:

THERE ARE 3 CITED REFERENCES AVAILABLE FOR THIS 3 RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

CAPLUS COPYRIGHT 2007 ACS on STN ANSWER 170 OF 212

ACCESSION NUMBER:

1999:423117 CAPLUS

DOCUMENT NUMBER:

131:169914

[RuCl2(COD)]n: a simplified source of Ru(II)-catalysts TITLE:

for the asymmetric hydrogenation of functionalized

ketones

Guerreiro, Patricio; Cano de Andrade, Maria-Cristina; AUTHOR(S):

Henry, Jean-Christophe; Tranchier, Jean-Philippe;

Phansavath, Phannarath; Ratovelomanana-Vidal,

Virginie; Genet, Jean-Pierre; Homri, Tarek; Touati,

Ali Rhida; Ben Hassine, Bechir

Laboratoire de Synthese Selective Organique et CORPORATE SOURCE:

Produits Naturels, UMR 7573, Ecole Nationale Superieure de Chimie de Paris, Paris, 75231, Fr.

Comptes Rendus de l'Academie des Sciences, Serie IIc:

Chimie (1999), 2(3), 175-179 CODEN: CASCFN; ISSN: 1387-1609

Editions Scientifiques et Medicales Elsevier PUBLISHER:

Journal DOCUMENT TYPE: English LANGUAGE:

CASREACT 131:169914 OTHER SOURCE(S):

A simplified procedure for enantioselective ruthenium-catalyzed hydrogenation of functionalized ketones using com. available [RuCl2(COD)]n (COD = cis, cis-cycloocta-1,5-diene) mixed with chiral diphosphines (BINAP, MeO-BIPHEP, DuPHOS) is reported. Under these conditions, C:O groups were completely hydrogenated with excellent enantiomeric excesses (up to 99%).

133545-16-1, Phosphine, [(1R)-6,6'-dimethoxy[1,1'-biphenyl]-2,2'-IT

diyl]bis[diphenyl- 133545-17-2

RL: CAT (Catalyst use); USES (Uses)

([RuCl2(COD)]n-diphosphine catalysts for asym. hydrogenation of functionalized ketones)

133545-16-1 CAPLUS RN

Phosphine, 1,1'-[(1R)-6,6'-dimethoxy[1,1'-biphenyl]-2,2'-diyl]bis[1,1-CN diphenyl- (CA INDEX NAME)

SOURCE:

133545-17-2 CAPLUS RN

Phosphine, 1,1'-[(1S)-6,6'-dimethoxy[1,1'-biphenyl]-2,2'-diyl]bis[1,1-CN diphenyl- (CA INDEX NAME)

REFERENCE COUNT:

25 THERE ARE 25 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L3 ANSWER 171 OF 212 CAPLUS COPYRIGHT 2007 ACS on STN

ACCESSION NUMBER:

CORPORATE SOURCE:

1999:371376 CAPLUS

DOCUMENT NUMBER:

131:214460

TITLE:

Chemistry in the ambient field of the alkaloid epibatidine. Part 3. Asymmetric synthesis of both enantiomers of N-protected epibatidine via reductive

Heck-type hetarylation

AUTHOR(S):

Namyslo, Jan Christoph; Kaufmann, Dieter E. Institut Organische Chemie, Technische Univ.

Clausthal, Clausthal-Zellerfeld, D-38678, Germany

SOURCE:

Synlett (1999), (6), 804-806 CODEN: SYNLES; ISSN: 0936-5214

Georg Thieme Verlag

PUBLISHER:

Journal

DOCUMENT TYPE:

English

LANGUAGE: OTHER SOURCE(S):

CASREACT 131:214460

The enantioselective reductive Heck-type hetarylation of 7-azabicyclo[2.2.1]hept-2-ene-7-carboxylate is presented using several optically active ligands. This asym. reaction provides both enantiomers of protected epibatidine in yields of 30-60% with ≤81% ee.

IT 133545-16-1, (R)-MeO-BIPHEP

RL: CAT (Catalyst use); USES (Uses)

(preparation of N-protected epibatidine via stereoselective reductive Heck hetarylation)

RN 133545-16-1 CAPLUS

CN Phosphine, 1,1'-[(1R)-6,6'-dimethoxy[1,1'-biphenyl]-2,2'-diyl]bis[1,1-diphenyl- (CA INDEX NAME)

46 REFERENCE COUNT: THERE ARE 46 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

ANSWER 172 OF 212 CAPLUS COPYRIGHT 2007 ACS on STN

ACCESSION NUMBER:

1999:348800 CAPLUS

DOCUMENT NUMBER:

131:102342

TITLE:

Synthesis and use of water-soluble sulfonated

dibenzofuran-based phosphine ligands

AUTHOR(S):

Gelpke, Arjan E. Sollewijn; Veerman, Johan J. N.; Goedheijt, Marcel Schreuder; Kamer, Paul C. J.; Van

Leeuwen, Piet W. N. M.; Hiemstra, Henk

Laboratories of Inorganic and Organic Chemistry,

Institute of Molecular Chemistry, University of

Amsterdam, Amsterdam, 1018 WS, Neth.

Tetrahedron (1999), 55(21), 6657-6670 CODEN: TETRAB; ISSN: 0040-4020

Elsevier Science Ltd.

PUBLISHER: DOCUMENT TYPE:

CORPORATE SOURCE:

Journal

LANGUAGE:

SOURCE:

English

OTHER SOURCE(S):

CASREACT 131:102342

The syntheses of three triphenylphosphine analogs with one, two or three Ph groups replaced by 2-dibenzofuranyl groups, resp., and one enantiopure analog of the atropisomeric diphosphine MeO-BIPHEP with all four Ph groups replaced by 2-dibenzofuranyl are reported. Sulfonation of these compds. with sulfuric acid at room temperature proceeded with complete regioselectivity at the 8-position in the dibenzofuran moieties. These results proved the usefulness of dibenzofuran as a structural moiety in the synthesis of water-soluble phosphine ligands. The dibenzofuran-based, water-soluble triphenylphosphine analogs were used as ligands in palladium-catalyzed aqueous phase Heck and Suzuki reactions and in the rhodium-catalyzed two-phase hydroformylation of propene.

145209-12-7P IT

RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)

(preparation and Grignard reaction with dibenzofuranylmagnesium bromide)

145209-12-7 CAPLUS RN

Phosphonic acid, (6,6'-dimethoxy[1,1'-biphenyl]-2,2'-diyl)bis-, CN tetraphenyl ester (9CI) (CA INDEX NAME)

IT 230635-54-8DP, complex

> RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)

(preparation and decomplexation of)

RN 230635-54-8 CAPLUS

CN Butanedioic acid, 2,3-bis(phenylmethoxy)-, (2R,3R)-, compd. with [(1S)-6,6'-dimethoxy[1,1'-biphenyl]-2,2'-diyl]bis[di-2dibenzofuranylphosphine oxide] (1:1) (9CI) (CA INDEX NAME)

CM

CRN 230635-53-7

CM 2

CRN 138794-81-7 CMF C18 H18 O6

Absolute stereochemistry. Rotation (-).

RN 230635-56-0 CAPLUS

CN Butanedioic acid, 2,3-bis(phenylmethoxy)-, (2R,3R)-, compd. with [(1R)-6,6'-dimethoxy[1,1'-biphenyl]-2,2'-diyl]bis[di-2-dibenzofuranylphosphine oxide] (1:1) (9CI) (CA INDEX NAME)

CM 1

CRN 230635-55-9 CMF C62 H40 O8 P2

2 CM

138794-81-7 CRN CMF C18 H18 O6

Absolute stereochemistry. Rotation (-).

230635-57-1 CAPLUS RN

Butanedioic acid, 2,3-bis(phenylmethoxy)-, (2S,3S)-, compd. with [(1S)-6,6'-dimethoxy[1,1'-biphenyl]-2,2'-diyl]bis[di-2-dibenzofuranylphosphine oxide] (1:1) (9CI) (CA INDEX NAME) CN

1 CM

230635-55-9 CRN CMF C62 H40 O8 P2

CM 2

CRN 116679-01-7 CMF C18 H18 O6

Absolute stereochemistry. Rotation (+).

IT 230310-72-2P

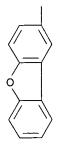
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)

(preparation and optical resolution of)

RN 230310-72-2 CAPLUS

CN Phosphine oxide, (6,6'-dimethoxy[1,1'-biphenyl]-2,2'-diyl)bis[bis(2-dibenzofuranyl)- (9CI) (CA INDEX NAME)

PAGE 1-A



IT 230635-51-5P 230635-58-2P

RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)

(preparation and sulfonation of)

RN 230635-51-5 CAPLUS

CN Phosphine, [(1S)-6,6'-dimethoxy[1,1'-biphenyl]-2,2'-diyl]bis[bis(2-dibenzofuranyl)- (9CI) (CA INDEX NAME)

RN 230635-58-2 CAPLUS

CN Phosphine, [(1R)-6,6'-dimethoxy[1,1'-biphenyl]-2,2'-diyl]bis[bis(2-dibenzofuranyl)- (9CI) (CA INDEX NAME)

IT 230635-52-6P 230635-53-7P 230635-55-9P

230635-59-3P

RL: CAT (Catalyst use); SPN (Synthetic preparation); PREP (Preparation); USES (Uses)

(preparation as cocatalyst for Heck and Suzuki reaction and hydroformylation of propene)

RN 230635-52-6 CAPLUS

CN 2-Dibenzofuransulfonic acid, 8,8',8'',8'''-[[(1R)-6,6'-dimethoxy[1,1'-biphenyl]-2,2'-diyl]diphosphinidyne]tetrakis-, tetrapotassium salt (9CI) (CA INDEX NAME)

●4 K

PAGE 1-B

RN 230635-53-7 CAPLUS

CN Phosphine oxide, [(1S)-6,6'-dimethoxy[1,1'-biphenyl]-2,2'-diyl]bis[di-2-dibenzofuranyl- (9CI) (CA INDEX NAME)

RN 230635-55-9 CAPLUS

CN Phosphine oxide, [(1R)-6,6'-dimethoxy[1,1'-biphenyl]-2,2'-diyl]bis[di-2-dibenzofuranyl- (9CI) (CA INDEX NAME)

RN 230635-59-3 CAPLUS

CN 2-Dibenzofuransulfonic acid, 8,8',8'',8'''-[[(1S)-6,6'-dimethoxy[1,1'-biphenyl]-2,2'-diyl]diphosphinidyne]tetrakis-, tetrapotassium salt (9CI) (CA INDEX NAME)

● 4 K

PAGE 1-B

REFERENCE COUNT:

51 THERE ARE 51 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L3 ANSWER 173 OF 212 CAPLUS COPYRIGHT 2007 ACS on STN

ACCESSION NUMBER:

1999:327825 CAPLUS

DOCUMENT NUMBER:

131:87795

TITLE:

Asymmetric palladium(0)-mediated synthesis of

2-vinylchroman

AUTHOR(S):

Labrosse, Jean-Robert; Poncet, Cecilia; Lhoste, Paul;

Sinou, Denis

CORPORATE SOURCE:

Laboratoire de Synthese Asymetrique, associe au CNRS,

CPE Lyon, Universite Claude Bernard Lyon 1,

Villeurbanne, 69622, Fr.

SOURCE:

Tetrahedron: Asymmetry (1999), 10(6), 1069-1078

CODEN: TASYE3; ISSN: 0957-4166

PUBLISHER:

Elsevier Science Ltd.

DOCUMENT TYPE:

Journal

LANGUAGE:

English

OTHER SOURCE(S):

CASREACT 131:87795

Optically active 2-vinylchroman was synthesized from the corresponding hydroxy allylic carbonate by palladium-catalyzed cyclization in the presence of various chiral ligands. Enantioselectivity of up to 53% was obtained using NMDPP as the chiral phosphine.

133545-17-2, Phosphine, (6,6'-dimethoxy[1,1'-biphenyl]-2,2'-IT

diyl)bis[diphenyl-, (S)-

RL: CAT (Catalyst use); USES (Uses)

(asym. palladium(0)-mediated synthesis of 2-vinylchroman)

133545-17-2 CAPLUS RN

Phosphine, 1,1'-[(1S)-6,6'-dimethoxy[1,1'-biphenyl]-2,2'-diyl]bis[1,1-CN diphenyl- (CA INDEX NAME)

REFERENCE COUNT:

THERE ARE 32 CITED REFERENCES AVAILABLE FOR THIS 32 RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

ANSWER 174 OF 212 CAPLUS COPYRIGHT 2007 ACS on STN

ACCESSION NUMBER:

1999:263880 CAPLUS

DOCUMENT NUMBER:

130:351831

TITLE:

AUTHOR(S):

General synthesis of chiral β -hydroxy sulfones

via enantioselective ruthenium-catalyzed hydrogenation Bertus, P.; Phansavath, P.; Ratovelomanana-Vidal, V.;

Genit, J.-P.

CORPORATE SOURCE:

Laboratoire de Synthese Selective Organique et Produits Naturels (UMR 7573), Ecole Nationale Superieure de Chimie de Paris, Paris, 75231, Fr. Tetrahedron Letters (1999), 40(16), 3175-3178

SOURCE:

CODEN: TELEAY; ISSN: 0040-4039

PUBLISHER:

Elsevier Science Ltd.

DOCUMENT TYPE:

Journal

LANGUAGE:

English

OTHER SOURCE(S):

CASREACT 130:351831

A new ruthenium-promoted hydrogenation of β -keto sulfones using MeO-BIPHEP as ligand is reported with complete conversions and enantiomeric excesses over 95%.

IT 133545-16-1 133545-17-2

RL: CAT (Catalyst use); USES (Uses)

(preparation of chiral β -hydroxy sulfones via enantioselective ruthenium-catalyzed hydrogenation of β -keto sulfones)

133545-16-1 CAPLUS RN

Phosphine, 1,1'-[(1R)-6,6'-dimethoxy[1,1'-biphenyl]-2,2'-diyl]bis[1,1-CN diphenyl- (CA INDEX NAME)

RN 133545-17-2 CAPLUS

CN Phosphine, 1,1'-[(1S)-6,6'-dimethoxy[1,1'-biphenyl]-2,2'-diyl]bis[1,1-diphenyl- (CA INDEX NAME)

REFERENCE COUNT:

THERE ARE 27 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L3 ANSWER 175 OF 212 CAPLUS COPYRIGHT 2007 ACS on STN

ACCESSION NUMBER:

1999:57469 CAPLUS

DOCUMENT NUMBER:

130:223390

TITLE:

Contributions to the Enantioselective Heck Reaction

Using MeO-Biphep Ligands. The Case Against

Dibenzylidene Acetone

AUTHOR(S):

Tschoerner, Matthias; Pregosin, Paul S.; Albinati,

·Alberto

CORPORATE SOURCE:

Laboratory of Inorganic Chemistry, ETH Zentrum,

Zurich, 8092, Switz.

SOURCE:

Organometallics (1999), 18(4), 670-678

CODEN: ORGND7; ISSN: 0276-7333

PUBLISHER:

American Chemical Society

DOCUMENT TYPE:

Journal

LANGUAGE:

English

OTHER SOURCE(S):

CASREACT 130:223390

The Pd-catalyzed enantioselective Heck reaction of p-XC6H4OTf, X = OMe, H, CO2Me, with dihydrofuran (dhf) gives higher enantioselectivities when the chelating diphosphine MeO-Biphep, la, is replaced with its disubstituted analog 3,5-di-tert-Bu MeO-Biphep, lb. The phenylation of 5-methyl-2,3-dihydrofuran produces a new dhf containing a quaternary stereogenic center (ee, >98% with lb, .apprx.20% with la). Catalytic

results for the reaction of Ph triflate with dhf, together with stoichiometric oxidative addition reactions of aryl halides on Pd complexes of 1, show that the use of Pd(dba)(1), dba = dibenzylidene acetone, slows the oxidative addition relative to the reaction in which the Pd(0) precursor is generated from PdCl2(1) + NaBH4. The solid-state structures for two PdI(aryl)(1a), 3, derivs., aryl = p-MeOOC-C6H4 (3a) and C6F5 (3b) are reported.

IT133545-17-2 192138-05-9

RL: CAT (Catalyst use); RCT (Reactant); RACT (Reactant or reagent); USES (Uses)

(contributions to the enantioselective Heck reaction as a chiral biphenyldiphosphine ligand with palladium catalyst complex)

133545-17-2 CAPLUS RN

Phosphine, 1,1'-[(1S)-6,6'-dimethoxy[1,1'-biphenyl]-2,2'-diyl]bis[1,1-CN diphenyl- (CA INDEX NAME)

192138-05-9 CAPLUS RN

Phosphine, [(1R)-6,6'-dimethoxy[1,1'-biphenyl]-2,2'-diyl]bis[bis[3,5-CN bis(1,1-dimethylethyl)phenyl]- (9CI) (CA INDEX NAME)

62

REFERENCE COUNT:

THERE ARE 62 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT L3 ANSWER 176 OF 212 CAPLUS COPYRIGHT 2007 ACS on STN

ACCESSION NUMBER: 1999:29111 CAPLUS

DOCUMENT NUMBER: 130:153640

TITLE: Palladium(0)-catalyzed asymmetric synthesis of

1,2,3,4-tetrahydro-2-vinylquinoxalines

AUTHOR(S): Massacret, Magali; Lhoste, Paul; Sinou, Denis

CORPORATE SOURCE: Laboratoire Synthese Asymetrique, CPE Lyon, Universite

Claude Bernard, Villeurbanne, F-69622, Fr.

SOURCE: European Journal of Organic Chemistry (1999), (1),

129-134

CODEN: EJOCFK; ISSN: 1434-193X

PUBLISHER: Wiley-VCH Verlag GmbH

DOCUMENT TYPE: Journal LANGUAGE: English

OTHER SOURCE(S): CASREACT 130:153640

The reaction of (Z)-MeO2COCH2CH:CHCH2OCO2Me with N,N'-bis(arylsulfonyl)1,2-phenylenediamines was catalyzed by a Pd complex associated with chiral
ligands to give optically active 1,4-bis(arylsulfonyl)-1,2,3,4-tetrahydro-

2-vinylquinoxalines with \leq 62% ee. The use of (S)-[2,6-(Ph2P)(MeO)C6H3]2 as the chiral ligand and N,N'-bis(4-tosyl)-1,2-phenylenediamine as the nucleophile led to the highest ee at 25°,

regardless of the solvent used. The enantioselectivity of the cyclization is strongly affected by the nature of the substituents at the N atom.

IT 133545-17-2

RL: CAT (Catalyst use); USES (Uses)

(palladium-catalyzed asym. cyclocondensation of

(methoxycarbonyloxy) butene with N-(arylsulfonyl) benzenediamines)

RN 133545-17-2 CAPLUS

CN Phosphine, 1,1'-[(1S)-6,6'-dimethoxy[1,1'-biphenyl]-2,2'-diyl]bis[1,1-diphenyl- (CA INDEX NAME)

REFERENCE COUNT: 26 THERE ARE 26 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L3 ANSWER 177 OF 212 CAPLUS COPYRIGHT 2007 ACS on STN

ACCESSION NUMBER: 1998:694271 CAPLUS

DOCUMENT NUMBER: 130:66588

TITLE: A New Phosphinite Chelate, (aryl) 2POBF2OH, Complexed

to Ruthenium(II). HBF4-Induced P-C Bond Cleavage in

Chiral MeO-Biphep Complexes

AUTHOR(S): Den Reijer, Carolien J.; Rueegger, Heinz; Pregosin,

Paul S.

CORPORATE SOURCE: Laboratorium fuer Anorganische Chemie, ETH Zentrum,

Zurich, CH-8092, Switz.

SOURCE:

Organometallics (1998), 17(24), 5213-5215

CODEN: ORGND7; ISSN: 0276-7333

PUBLISHER:

American Chemical Society

DOCUMENT TYPE:

Journal English

LANGUAGE:

AB Reaction of Ru(OAc)2(MeO-Biphep) (MeO-Biphep = 6,6'-dimethoxybiphenyl-2,2'-diylbis(diarylphosphine)) with 2 equiv of HBF4 in CH2Cl2 cleaves the MeO-Biphep. Products contain the exotic chelate ligand (aryl)2POB(OH)F2 (aryl = Ph, p-tolyl, 3,5-di-tert-butylphenyl) together with an (aryl)2P-η6-arene, 8e donor chelate. The reaction involves a fluorophosphine intermediate.

IT 133545-17-2 133545-25-2 167709-31-1

RL: RCT (Reactant); RACT (Reactant or reagent)

(tetrafluoroborate induced carbon-phosphorus bond cleavage in)

RN 133545-17-2 CAPLUS

CN Phosphine, 1,1'-[(1S)-6,6'-dimethoxy[1,1'-biphenyl]-2,2'-diyl]bis[1,1-diphenyl- (CA INDEX NAME)

RN 133545-25-2 CAPLUS

CN Phosphine, [(1S)-6,6'-dimethoxy[1,1'-biphenyl]-2,2'-diyl]bis[bis(4-methylphenyl)- (9CI) (CA INDEX NAME)

PAGE 2-A

RN 167709-31-1 CAPLUS
CN Phosphine, 1,1'-[(1S)-6,6'-dimethoxy[1,1'-biphenyl]-2,2'-diyl]bis[1,1-bis[3,5-bis(1,1-dimethylethyl)phenyl]- (CA INDEX NAME)

PAGE 2-A

t-Bu Bu-t

REFERENCE COUNT:

23 THERE ARE 23 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L3 ANSWER 178 OF 212 CAPLUS COPYRIGHT 2007 ACS on STN

ACCESSION NUMBER:

1998:649896 CAPLUS

DOCUMENT NUMBER:

130:3725

TITLE:

New one pot synthesis of a chiral α -hydroxy- γ -butyrolactone via sequential asymmetric

hydrogenation of an α, γ -diketo ester

AUTHOR(S):

Blandin, Veronique; Carpentier, Jean-Francois;

Mortreux, Andre

CORPORATE SOURCE:

Laboratoire de Catalyse Heterogene et Homogene associe au CNRS, Groupe de Chimie Organique Appliquee, Ecole Nationale Superieure de Chimie de Lille, Villeneuve

d'Ascq, Fr.

SOURCE:

Tetrahedron: Asymmetry (1998), 9(16), 2765-2768

CODEN: TASYE3; ISSN: 0957-4166

PUBLISHER:

Elsevier Science Ltd.

DOCUMENT TYPE:

Journal

LANGUAGE:

English

OTHER SOURCE(S):

CASREACT 130:3725

AB The hydrogenation of Et 2,4-dioxovalerate in the presence of chiral rhodium or ruthenium catalysts provides direct access to 2-hydroxy-4-methyltetrahydrofuran-2-one with syn:anti ratios of up to 84:16 and with up to 98% and 94% e.e. in the syn and anti form, resp.

IT 133545-17-2

RL: CAT (Catalyst use); USES (Uses)

(one pot preparation of chiral α -hydroxy- γ -butyrolactone via

sequential asym. hydrogenation of α, γ -diketo ester)

RN133545-17-2 CAPLUS

Phosphine, 1,1'-[(1S)-6,6'-dimethoxy[1,1'-biphenyl]-2,2'-diyl]bis[1,1-CN diphenyl- (CA INDEX NAME)

OMe PPh₂

Ph₂E MeO

15 THERE ARE 15 CITED REFERENCES AVAILABLE FOR THIS REFERENCE COUNT: RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

CAPLUS COPYRIGHT 2007 ACS on STN L3 ANSWER 179 OF 212

ACCESSION NUMBER:

1998:567460 CAPLUS

DOCUMENT NUMBER:

129:276268

TITLE:

An efficient synthesis of (2S, 3R)-3-hydroxylysine via

ruthenium catalyzed asymmetric hydrogenation

AUTHOR(S):

Coulon, Estelle; Cristina, Maria; De Andrade, Cano; Ratovelomanana-Vidal, Virginie; Genet, Jean-Pierre

CORPORATE SOURCE:

Laboratoire de Synthese Selective Organique et

Produits Naturels, CNRS, Ecole Nationale Superieure de Chimie de Paris, Paris, 75231, Fr.

SOURCE:

Tetrahedron Letters (1998), 39(36), 6467-6470

CODEN: TELEAY; ISSN: 0040-4039

PUBLISHER:

Elsevier Science Ltd.

DOCUMENT TYPE:

Journal

LANGUAGE:

English

OTHER SOURCE(S):

CASREACT 129:276268

An efficient synthesis of the natural occurring amino acid AB (2S, 3R)-3-hydroxylysine (I) is reported. The five step sequence features a highly enantioselective dynamic kinetic resolution of racemic α -acetamido- β -ketophthalimidohexanoate (II) using ruthenium(II)-catalyzed hydrogenation reaction.

ΙT 133545-16-1

> RL: CAT (Catalyst use); USES (Uses) (efficient asym. synthesis of hydroxylysine via ruthenium-catalyzed

asym. hydrogenation)

RN 133545-16-1 CAPLUS

CN Phosphine, 1,1'-[(1R)-6,6'-dimethoxy[1,1'-biphenyl]-2,2'-diyl]bis[1,1-diphenyl- (CA INDEX NAME)

OMe

REFERENCE COUNT: 29 THERE ARE 29 CITED REFERENCES AVAILABLE FOR THIS

RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

(1

L3 ANSWER 180 OF 212 CAPLUS COPYRIGHT 2007 ACS on STN

ACCESSION NUMBER: 1997:786964 CAPLUS

DOCUMENT NUMBER: 128:114752

TITLE: Practical synthesis of (S)-2-(4-fluorophenyl)-3-

methylbutanoic acid, key building block for the

calcium antagonist Mibefradil

AUTHOR(S): Crameri, Yvo; Foricher, Joseph; Scalone, Michelangelo;

Schmid, Rudolf

CORPORATE SOURCE: Pharmaceuticals Div., Process Res., F. Hoffmann-La

Roche AG, Basel, CH-4070, Switz.

SOURCE: Tetrahedron: Asymmetry (1997), 8(21), 3617-3623

CODEN: TASYE3; ISSN: 0957-4166

PUBLISHER: Elsevier Science Ltd.

DOCUMENT TYPE: Journal LANGUAGE: English

OTHER SOURCE(S): CASREACT 128:114752

AB A short, tech. feasible route was developed for the synthesis of

(S)-2-(4-fluorophenyl)-3-methylbutanoic acid with an overall yield of 80% starting from 4-fluorobenzeneacetic acid. Asym. hydrogenation of the

easily accessible unsatd. acid in the presence of ruthenium(II)

carboxylato complexes containing chiral atropisomeric diphosphines afforded (S)-2-(4-fluorophenyl)-3-methylbutanoic acid in up to 94% ee. The ee of

(S)-2-(4-fluorophenyl)-3-methylbutanoic acid was upgraded to 98% by

crystallization of its sodium salt. The same protocol was also applied to the synthesis if (S)-2-(4-chlorophenyl)-3-methylbutanoic acid.

IT 151516-06-2

RL: CAT (Catalyst use); USES (Uses)

(ligand)

RN 151516-06-2 CAPLUS

CN Phosphine, dicyclopentyl[2'-(diphenylphosphino)-6,6'-dimethoxy[1,1'-biphenyl]-2-yl]-, (R)- (9CI) (CA INDEX NAME)

RN 150971-45-2 CAPLUS
CN Phosphine, [(1R)-6,6'-dimethoxy[1,1'-biphenyl]-2,2'-diyl]bis[bis(1-methylethyl)- (9CI) (CA INDEX NAME)

RN 172617-14-0 CAPLUS
CN Phosphine, (6,6'-dimethoxy[1,1'-biphenyl]-2,2'-diyl)bis[dicyclohexyl-,
(R)- (9CI) (CA INDEX NAME)

PAGE 2-A

RN 192138-05-9 CAPLUS
CN Phosphine, [(1R)-6,6'-dimethoxy[1,1'-biphenyl]-2,2'-diyl]bis[bis[3,5-bis(1,1-dimethylethyl)phenyl]- (9CI) (CA INDEX NAME)

REFERENCE COUNT:

29 THERE ARE 29 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L3 ANSWER 181 OF 212 CAPLUS COPYRIGHT 2007 ACS on STN

ACCESSION NUMBER:

1997:588220 CAPLUS

DOCUMENT NUMBER:

127:234375

TITLE: Palladium-Allyl Complexes Based on

3,17-Dioxo-4-Androstene. The Solid-State Structure of

 $[Pd(\eta_3-C19H29O2)(R-Binap)]PF6$

AUTHOR(S): Drommi, Dario; Nesper, Reinhard; Pregosin, Paul S.;

Trabesinger, Gerald; Zuercher, Fabio

CORPORATE SOURCE: Laboratorium fuer Anorganische Chemie, ETH Zuerich,

Zurich, CH-8092, Switz.

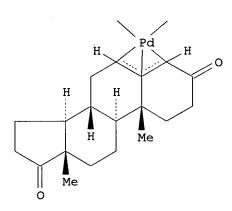
SOURCE: Organometallics (1997), 16(20), 4268-4275

CODEN: ORGND7; ISSN: 0276-7333

PUBLISHER: American Chemical Society

DOCUMENT TYPE: Journal LANGUAGE: English

GΙ



AB Several π -allyl compds. [Pd(η 3-C19H2902) (bidentate)] (anion) (partial structure shown as I), derived from 3,17-dioxo-4-androstene, were prepared (bidentate = R-Binap, 3a; S,S-Chiraphos, 3b; (6,6'-dimethoxybiphenyl-2,2'-diyl)bis(3,5-di-tert-butylphenylphosphine), MeO-Biphep, 3c; the P,S-chelate (2,3,4,6-tetra-O-acetyl-1-((2-diphenylphosphino)benzylthio)- β -D-glucopyranose), 7, phenanthroline, 8, and neocuproin, 9). The solid-state structure of [Pd(η 3-C19H2902)(R-Binap)]PF6 was determined by x-ray diffraction methods. Probably 3a (and presumably other relatively large allyl complexes) accommodates the two large ligands by both hinging the allyl plane away from the Binap and rotating the allyl ligand. Selected aspects of the solution dynamics for 3a, 3c, and 9 were followed by NOESY methods. Allyl 13C NMR data are reported for the complexes.

IT 192138-05-9, (R)-(6,6'-Dimethoxybiphenyl-2,2'-diyl)bis(3,5-di-tert-butylphenylphosphine)

RL: RCT (Reactant); RACT (Reactant or reagent)

Ι

(for preparation of palladium dioxoandrostene-based allyl complex with bidentate ligand)

RN 192138-05-9 CAPLUS

CN Phosphine, [(1R)-6,6'-dimethoxy[1,1'-biphenyl]-2,2'-diyl]bis[bis[3,5-bis(1,1-dimethylethyl)phenyl]- (9CI) (CA INDEX NAME)

THERE ARE 72 CITED REFERENCES AVAILABLE FOR THIS 72 REFERENCE COUNT: RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

CAPLUS COPYRIGHT 2007 ACS on STN ANSWER 182 OF 212

ACCESSION NUMBER:

1997:564541 CAPLUS

DOCUMENT NUMBER:

127:247856

TITLE:

Palladium-catalyzed reactions. Part 1.

Palladium-catalyzed enantioselective hydrophenylation and hydrohetarylation of bicyclo[2.2.1]hept-2-ene. Influence of the chiral ligand, the leaving group, and

the solvent

AUTHOR(S):

Namyslo, Jan Christoph; Kaufmann, Dieter E.

CORPORATE SOURCE:

Institut Organische Chemie, Technische Universitat Clausthal, Clausthal-Zellerfeld, D-38678, Germany

SOURCE:

Chemische Berichte/Recueil (1997), 130(9), 1327-1331

CODEN: CHBRFW

PUBLISHER:

Wiley-VCH Journal

DOCUMENT TYPE: LANGUAGE: English

The use of optically active biaryl bisphosphines, (S)-2-[2-(diphenylphosphinyl)phenyl]-4-isopropyloxazoline, and (S)-Me2CHCH(NHSO2Me)CH2PPh2 as ligands in the Pd-catalyzed Heck-type hydroarylation of norbornene with various benzenes and hetarenes leads exclusively to the formation of exo-2-(het)arylnorbornanes with asym. inductions <86.4% ee. In addition to an investigation into the</pre> effects of different chiral ligands, a systematic study was made on the influence of various (het)aryl compds., leaving groups, and solvents on the chemical and optical yields of this reductive arylation.

133545-16-1 IT

RL: CAT (Catalyst use); USES (Uses)

(effect of chiral ligand, leaving group, and solvent on palladium-catalyzed asym. hydroarylation of bicycloheptene)

RN 133545-16-1 CAPLUS

Phosphine, 1,1'-[(1R)-6,6'-dimethoxy[1,1'-biphenyl]-2,2'-diyl]bis[1,1-CN diphenyl- (CA INDEX NAME)

ANSWER 183 OF 212 CAPLUS COPYRIGHT 2007 ACS on STN

ACCESSION NUMBER:

1997:475955 CAPLUS

DOCUMENT NUMBER:

127:95383

TITLE:

New Chiral Complexes of Palladium(0) Containing P,S-

and P, P-Bidentate Ligands

AUTHOR(S):

Tschoerner, Matthias; Trabesinger, Gerald; Albinati,

Alberto; Pregosin, Paul S.

CORPORATE SOURCE:

Laboratorium fuer Anorganische Chemie, ETH Zentrum,

Zurich, 8092, Switz.

SOURCE:

Organometallics (1997), 16(15), 3447-3453

CODEN: ORGND7; ISSN: 0276-7333

PUBLISHER:

American Chemical Society

DOCUMENT TYPE:

Journal

LANGUAGE:

English

New chiral complexes of Pd(0) containing either the bis(phosphine) (6,6'-dimethoxybiphenyl-2,2'-diyl)bis(3,5-di-tert-butylphenylphosphine) (MeO-BIPHEP) or the phosphine-sulfur chelate (2,3,4,6-tetra-O-acetyl-1-{(2diphenylphosphino)benzyl)thio}- β -D-glucopyranose ((2-Ph2PC6H4CH2)SCHCH(OAc)CH(OAc)CH(OAc)CH(CH2OAc)O) (2) have been prepared, and the solid-state structure of 2 was determined These Pd(0) complexes reveal interesting solution dynamics, as shown by 2-dimensional exchange spectroscopy. For the MeO-BIPHEP derivs., one can obtain useful structural insights based on the observed restricted rotation around the aryl(3,5-di-tert-butylphenyl) P-C bonds.

IT 167709-31-1 192138-05-9

RL: RCT (Reactant); RACT (Reactant or reagent) (preparation of chiral complexes of palladium(0) containing P,S- and P, P-bidentate ligands)

RN 167709-31-1 CAPLUS

Phosphine, 1,1'-[(1S)-6,6'-dimethoxy[1,1'-biphenyl]-2,2'-diyl]bis[1,1-CN bis[3,5-bis(1,1-dimethylethyl)phenyl]- (CA INDEX NAME)

PAGE 2-A

RN 192138-05-9 CAPLUS
CN Phosphine, [(1R)-6,6'-dimethoxy[1,1'-biphenyl]-2,2'-diyl]bis[bis[3,5-bis(1,1-dimethylethyl)phenyl]- (9CI) (CA INDEX NAME)

L3 ANSWER 184 OF 212 CAPLUS COPYRIGHT 2007 ACS on STN

ACCESSION NUMBER: 1997:435818 CAPLUS

DOCUMENT NUMBER: 127:65905

TITLE: Enantioselective Homogeneous Catalysis and the

"3,5-Dialkyl Meta-Effect". MeO-BIPHEP Complexes

Related to Heck, Allylic Alkylation, and Hydrogenation

Chemistry

AUTHOR(S): Trabesinger, Gerald; Albinati, Alberto; Feiken,

Nantko; Kunz, Roland W.; Pregosin, Paul S.;

Tschoerner, Matthias

CORPORATE SOURCE: Laboratorium fuer Anorganische Chemie, ETH Zentrum,

Zurich, 8092, Switz.

SOURCE: Journal of the American Chemical Society (1997),

119(27), 6315-6323

CODEN: JACSAT; ISSN: 0002-7863

PUBLISHER: American Chemical Society

DOCUMENT TYPE: Journal LANGUAGE: English

The enantioselectivities arising from a Pd-catalyzed Heck reaction (>98% ee) and an allylic alkylation (>90% ee) using a 3,5-di-tert-butyl-MeO-BIPHEP chiral auxiliary [1 = 6,6'-dimethoxy-2,2'-bis[bis(3,5-di-tertbutylphenyl)phosphino|biphenyl] are reported. Higher ee's are observed with the 3,5-dialkyl substituents than with the unsubstituted parent MeO-BIPHEP. It is proposed that the observed dialkyl "meta-effect", on enantioselectivity, is the combined result of a more rigid and slightly larger chiral pocket and that this effect will have some generality in homogeneous catalysis. Detailed NMR studies on the allyl complex [Pd(PhCHCHCHPh)(1)]PF6, and the model hydrogenation catalyst [RuH(cymene)(1)]BF4 (6), reveal restricted rotation about several of the P-C(ipso) bonds of the phosphorus substituents containing the 3,5-di-tert-Bu groups. The x-ray structure of 6 reveals that the cymene ligand is not sym. bound to the Ru atom. This observation is interpreted as an expression of the chiral pocket of 1. MM3* calcns. on 6 support the NMR findings and reproduce the x-ray results.

IT 167709-31-1

RL: CAT (Catalyst use); RCT (Reactant); RACT (Reactant or reagent); USES (Uses)

(enantioselective Pd-catalyzed Heck reaction and allylic alkylation using 6,6'-dimethoxy-2,2'-bis[bis(3,5-di-tert-butylphenyl)phosphino]biphenyl chiral auxiliary)

RN 167709-31-1 CAPLUS

CN Phosphine, 1,1'-[(1S)-6,6'-dimethoxy[1,1'-biphenyl]-2,2'-diyl]bis[1,1-bis[3,5-bis(1,1-dimethylethyl)phenyl]- (CA INDEX NAME)

PAGE 2-A

t-Bu

REFERENCE COUNT:

THERE ARE 60 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

ANSWER 185 OF 212 CAPLUS COPYRIGHT 2007 ACS on STN

60

ACCESSION NUMBER: 1997:303661 CAPLUS

DOCUMENT NUMBER:

127:50332

TITLE:

Asymmetric hydrogenation of phenylthio ketones with

AUTHOR(S):

chiral Ru(II) catalysts

Tranchier, Jean-Philippe; Ratovelamanana-Vidal,

Virginie; Genet, Jean-Pierre; Tong, Shaojing; Cohen,

Theodore

CORPORATE SOURCE:

Laboratoire de Synthese Organique, Associe au C.N.R.S., Ecole Nationale Superieure de Chimie de

Paris, Paris, 75231, Fr.

SOURCE:

Tetrahedron Letters (1997), 38(17), 2951-2954

CODEN: TELEAY; ISSN: 0040-4039

PUBLISHER: Elsevier DOCUMENT TYPE: Journal LANGUAGE: English

OTHER SOURCE(S):

CASREACT 127:50332

Asym. hydrogenation of phenylthio ketones using chiral Ru(II) catalysts is reported. Complete conversions and enantiomeric excesses up to 98% were For example, a catalyst was prepared in situ from (1,5-cyclooctadiene)bis(2-methylallyl)ruthenium and (S)-BINAP in the presence of HBr. The asym. hydrogenation of 4-(phenylthio)-2-butanone with this catalyst gave (S)-4-(phenylthio)-2-butanol in 96% yield and in 98% enantiomeric excess. Similarly, hydrogenation using . (1,5-cyclooctadiene)bis(2-methylallyl)ruthenium and (R)-BINAP as catalyst

gave (R)-4-(phenylthio)-2-butanol in 100% yield and in 92% enantiomeric excess.

IT 133545-16-1 133545-17-2 145214-57-9

RL: CAT (Catalyst use); USES (Uses)

(ligand; stereoselective hydrogenation of phenylthio ketones with chiral ruthenium catalysts)

RN 133545-16-1 CAPLUS

CN Phosphine, 1,1'-[(1R)-6,6'-dimethoxy[1,1'-biphenyl]-2,2'-diyl]bis[1,1-diphenyl- (CA INDEX NAME)

RN 133545-17-2 CAPLUS

CN Phosphine, 1,1'-[(1S)-6,6'-dimethoxy[1,1'-biphenyl]-2,2'-diyl]bis[1,1-diphenyl- (CA INDEX NAME)

RN 145214-57-9 CAPLUS

CN Phosphine, [(1R)-6,6'-dimethoxy[1,1'-biphenyl]-2,2'-diyl]bis[di-2-furanyl-(9CI) (CA INDEX NAME)

REFERENCE COUNT:

25 THERE ARE 25 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

ANSWER 186 OF 212 CAPLUS COPYRIGHT 2007 ACS on STN

ACCESSION NUMBER:

1997:94054 CAPLUS 126:104246

DOCUMENT NUMBER: TITLE:

Preparation of enantiomerically pure bisphosphines and

use of their Group VIII metal complexes as catalysts

for asymmetric hydrogenation

INVENTOR(S):

Laue, Christian; Schroeder, Georg; Arlt, Dieter

PATENT ASSIGNEE(S):

Bayer A.-G., Germany

SOURCE:

Eur. Pat. Appl., 13 pp.

CODEN: EPXXDW

DOCUMENT TYPE:

Patent

LANGUAGE:

German

FAMILY ACC. NUM. COUNT:

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
EP 749973	A1	19961227	EP 1996-109252	19960610
	B1	20011114		
R: AT, BE, CH	, DE, DK	, ES, FR,	GB, GR, IE, IT, LI, LU,	MC, NL, PT, SE
DE 19522293	A1	19970102		
AT 208782 .	T	20011115	AT 1996-109252	
PT 749973	T	20020429	PT 1996-109252	19960610
ES 2167489	Т3	20020516	ES 1996-109252	19960610
US 5710339	Α	19980120	US 1996-664073	19960613
TW 427994	В	20010401	TW 1996-85107135	19960614
CA 2179244	A1	19961221	CA 1996-2179244	19960617
CA 2179244	С	20060822		
JP 09003082	Α	19970107	JP 1996-175446	19960617
JP 3862784	В2	20061227		
IL 118670	Α	20000726	IL 1996-118670	19960617
ни 9601699	A2	19970428	ни 1996-1699	19960620
HU ·215283	В	19981130		
US 5801261	Α	19980901	US 1997-953473	19971017
PRIORITY APPLN. INFO.:			DE 1995-19522293	A 19950620
			US 1996-664073	A1 19960613
	an and	om 100.10	4046. MADDAM 106.104046	

OTHER SOURCE(S):

CASREACT 126:104246; MARPAT 126:104246

GΙ

AB Enantiomers of I, a procedure for their preparation, their use to make Group VIII metal complexes, and use of the complexes as asym. hydrogenation catalysts are claimed. In I, R = Ph with optionally 1-3 substituents = OR1, R1, nitro, NH2, NHR1, NR12 (R1 = C2-6 alkyl), C2-7 alkyl, or C3-7 cycloalkyl. For example, I (R = Ph) was prepared via the following steps: a Grignard reaction of 5-bromo-2-chloroanisole with Ph2P(O)Cl gave diphenyl(4-chloro-3-methoxyphenyl)phosphine oxide, which was iodinated at the 2 position; coupling of the iodinated derivative using Cu/DMF gave the racemic P,P-dioxide of I, which was resolved by fractional crystallization

using

(-)-dibenzoyltartaric acid; the phosphine oxide enantiomers were then reduced by Cl3SiH in xylene/Bu3N to give the enantiomers of I. Examples show how Ru complexes of one of the enantiomers catalyzed hydrogenation of 2-(3-benzylphenyl)propenoic acid with 88% enantiomeric excess (ee) and of Me acetate with 97% ee.

IT 185836-54-8P

RL: PEP (Physical, engineering or chemical process); RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); PROC (Process); RACT (Reactant or reagent)

(preparation of enantiomerically pure bisphosphines and use of Group VIII metal complexes as catalysts for asym. hydrogenation)

RN 185836-54-8 CAPLUS

CN Phosphine oxide, (5,5'-dichloro-6,6'-dimethoxy[1,1'-biphenyl]-2,2'-diyl)bis[diphenyl- (9CI) (CA INDEX NAME)

IT 185913-95-5P 185913-96-6P

RL: PUR (Purification or recovery); RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)

(preparation of enantiomerically pure bisphosphines and use of Group VIII metal complexes as catalysts for asym. hydrogenation)

RN 185913-95-5 CAPLUS

CN

Phosphine oxide, [(1S)-5,5'-dichloro-6,6'-dimethoxy[1,1'-biphenyl]-2,2'-diyl]bis[diphenyl- (9CI) (CA INDEX NAME)

RN 185913-96-6 CAPLUS

CN Phosphine oxide, [(1R)-5,5'-dichloro-6,6'-dimethoxy[1,1'-biphenyl]-2,2'-diyl]bis[diphenyl- (9CI) (CA INDEX NAME)

IT 185913-97-7P

RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)

(preparation of enantiomerically pure bisphosphines and use of Group VIII metal complexes as catalysts for asym. hydrogenation)

RN 185913-97-7 CAPLUS

CN Phosphine, [(1R)-5,5'-dichloro-6,6'-dimethoxy[1,1'-biphenyl]-2,2'-diyl]bis[diphenyl- (9CI) (CA INDEX NAME)

IT 185913-98-8P

RL: SPN (Synthetic preparation); PREP (Preparation)

(preparation of enantiomerically pure bisphosphines and use of Group VIII metal complexes as catalysts for asym. hydrogenation)

RN 185913-98-8 CAPLUS

CN

Phosphine, [(1S)-5,5'-dichloro-6,6'-dimethoxy[1,1'-biphenyl]-2,2'-diyl]bis[diphenyl- (9CI) (CA INDEX NAME)

L3 ANSWER 187 OF 212 CAPLUS COPYRIGHT 2007 ACS on STN

ACCESSION NUMBER: 1997:76990 CAPLUS

DOCUMENT NUMBER: 126:104226

TITLE: (6,6'-Dimethoxybiphenyl-2,2'-

diyl)bis(diphenylphosphine) (MeO-BIPHEP) as a Six-Electron Donor in [Ru(η 5-C8H11)(MeO-BIPHEP)]+ Cations. Coordination of a Biaryl Double Bond, As

Shown by 13C NMR and X-ray Crystallography

AUTHOR(S): Feiken, Nantko; Pregosin, Paul S.; Trabesinger,

Gerald; Scalone, Michelangelo

CORPORATE SOURCE: ETH Zuerich, Zurich, CH-8092, Switz.

SOURCE: Organometallics (1997), 16(4), 537-543

CODEN: ORGND7; ISSN: 0276-7333

PUBLISHER: American Chemical Society

DOCUMENT TYPE: Journal LANGUAGE: English

The reaction of the MeO-BIPHEP complex Ru(OAc)2(1a) (1a = AB (6,6'-dimethoxybiphenyl-2,2'-diyl)bis(bis(3,5-di-tertbutylphenyl)phosphine)), with HBF4 and 1,5-COD affords $[Ru(\eta 5-C8H11)(1a)]BF4$ (4), in which 1a functions as a 6e donor to Ru(II) via an unexpected coordination of one of the biaryl double bonds. The iso-Pr analog [Ru(η 5-C8H11)(1b)]CF3CO2 (6; 1b = (6,6'-dimethoxybiphenyl-2,2'-diyl)bis(diisopropylphosphine)) was prepared by starting from [Ru(CF3CO2)2(1,5-COD)]2 and reveals the same n4-bonding mode. Both complexes were characterized by detailed multidimensional NMR studies, and the x-ray structure for 6 is reported. Although the 31P chemical shifts for this new $\eta 4$ -bonding mode are informative, the 13C resonance positions for the coordinated biaryl carbons are a more reliable criterion for recognizing this type of interaction. These chemical shift data are difficult to obtain using routine 13C measurements, and a long-range 13C, 1H-correlation is recommended as the method of choice. Complex 4 exhibits dynamic behavior in solution, as shown by 2-D NOESY. exchange process can be rationalized by assuming that the double bond dissocs.; however, complex 6 does not show an analogous exchange process. IT 150971-45-2

RL: RCT (Reactant); RACT (Reactant or reagent)

(reaction with cyclooctadieneruthenium trifluoroacetate complex)

RN 150971-45-2 CAPLUS

CN Phosphine, [(1R)-6,6'-dimethoxy[1,1'-biphenyl]-2,2'-diyl]bis[bis(1-methylethyl)- (9CI) (CA INDEX NAME)

IT 167709-31-1

RL: RCT (Reactant); RACT (Reactant or reagent)
 (reaction with cymene ruthenium acetate complex)

RN 167709-31-1 CAPLUS

CN Phosphine, 1,1'-[(1S)-6,6'-dimethoxy[1,1'-biphenyl]-2,2'-diyl]bis[1,1-bis[3,5-bis(1,1-dimethylethyl)phenyl]- (CA INDEX NAME)

PAGE 1-A

PAGE 2-A

L3 ANSWER 188 OF 212 CAPLUS COPYRIGHT 2007 ACS on STN

ACCESSION NUMBER: 1996:661453 CAPLUS

DOCUMENT NUMBER: 125:328904

TITLE: Asymmetric hydrogenation of β -ketophosphonates

and β -ketothiophosphonates with chiral Ru(II)

catalysts

AUTHOR(S): Gautier, Isabelle; Ratavelomanana-Vidal, Virginie;

Savignac, Philippe; Genet, Jean-Pierre

CORPORATE SOURCE:

SOURCE:

Lab. Synthese Org. Assoc., CNRS, Paris, 75231, Fr.

Tetrahedron Letters (1996), 37(43), 7721-7724

CODEN: TELEAY; ISSN: 0040-4039

PUBLISHER:

DOCUMENT TYPE:

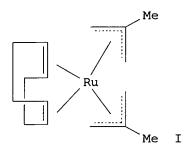
LANGUAGE:

OTHER SOURCE(S):

GI

Elsevier Journal English

CASREACT 125:328904



AB Asym. hydrogenation of β -ketophosphonates and β -ketothiophosphonates is described. Enantiomeric excesses up to 99% were obtained. Thus, hydrogenation of MeCOCH2P(O)(OEt)2 with (S)-Binap and Ru-catalyst I gave quant. yield of II with 99% ee.

IT 133545-16-1 133545-17-2

RL: CAT (Catalyst use); USES (Uses)

(ruthenium complexes containing chiral ligands for stereoselective hydrogenation of ketophosphonates and ketothiophosphonates)

RN 133545-16-1 CAPLUS

CN Phosphine, 1,1'-[(1R)-6,6'-dimethoxy[1,1'-biphenyl]-2,2'-diyl]bis[1,1-diphenyl- (CA INDEX NAME)

RN 133545-17-2 CAPLUS

CN Phosphine, 1,1'-[(1S)-6,6'-dimethoxy[1,1'-biphenyl]-2,2'-diyl]bis[1,1-diphenyl- (CA INDEX NAME)

L3 ANSWER 189 OF 212 CAPLUS COPYRIGHT 2007 ACS on STN

ACCESSION NUMBER: 1996:609763 CAPLUS

DOCUMENT NUMBER: 125:248081

TITLE: Asymmetric Hydroformylation of Styrene Catalyzed by

Platinum(II)-Alkyl Complexes Containing Atropisomeric

Diphosphines

AUTHOR(S): Scrivanti, Alberto; Beghetto, Valentina; Bastianini,

Alessandra; Matteoli, Ugo; Menchi, Gloria

CORPORATE SOURCE: Dipartimento di Chimica, Universita di Venezia,

Venice, 30123, Italy

SOURCE: Organometallics (1996), 15(22), 4687-4694

CODEN: ORGND7; ISSN: 0276-7333

PUBLISHER: American Chemical Society

DOCUMENT TYPE: Journal LANGUAGE: English

OTHER SOURCE(S): CASREACT 125:248081

[PtMeCl(P-P)] (1, P-P = (S)-6, 6'-(dimethoxybiphenyl)-2, 2'diylbis(diphenylphosphine) ((S)-MOBIPH); 2, P-P = (R)-2,2'bis (diphenylphosphino) -1,1'-binaphthyl ((R)-BINAP); 3, P-P = (2S,3S)-2,3-0-isopropylidene-2,3-dihydroxy-1,4-(diphenylphosphino)butane ((S,S)-DIOP))in the presence of SnCl2 catalyze the asym. hydroformylation of styrene. The reaction proceeds under mild conditions (50°, P(H2) = P(C0) = 50 atm) to give the desired branched aldehyde with moderate regioselectivity. Good enantioselectivities (up to 75%) were obtained using [PtMeCl{(S)-MOBIPH}]. The influence of solvent, temperature, P(H2), and P(CO) was studied. An impressive influence of the solvent was observed: using [PtMeCl{(R)-BINAP}], the chirality of 2-phenylpropanal obtained in toluene or in THF is opposite to that of 2-phenylpropanal produced in CH2Cl2 or acetone. Using [PtMeCl{(S)-MOBIPH}] or [PtMeCl{(R)-BINAP}], an unusual increase of the rate and enantioselectivity of the reaction with increasing P(CO) is observed To get information on the reaction mechanism, the carbonylation of

[PtMe(SnCl3){(S)-MOBIPH}] (4) was studied. This reaction carried out at room temperature and atmospheric pressure affords an equilibrium mixture

containing the cationic

alkyl complex $[PtMe(CO) \{(S)-MOBIPH\}]+[SnCl3]-$ (6) and the neutral acyl species $[Pt(COCH3) \{SnCl3\} \{(S)-MOBIPH\}]$ (7). The carbonylation of $[PtMe(SnCl3) \{(R)-BINAP\}]$ (5) proceeds in the same fashion to give $[PtMe(CO) \{(R)-BINAP\}]+[SnCl3]-$ (8) and $[Pt(COCH3) \{SnCl3\} \{(R)-BINAP\}]$ (9). The prepns. are described of 11 platinum complexes.

IT 133545-17-2, (S)-6,6'-Dimethoxybiphenyl-2,2'-

diylbis (diphenylphosphine)

RL: RCT (Reactant); RACT (Reactant or reagent)

(coordinative substitution with platinum COD chloro Me complex)

RN 133545-17-2 CAPLUS

CAPLUS COPYRIGHT 2007 ACS on STN ANSWER 190 OF 212

1996:457353 CAPLUS ACCESSION NUMBER:

DOCUMENT NUMBER: 125:221957

(R) - and (S) -6,6'-dimethyl- and 6,6'-dimethoxy-2,2'-TITLE:

diiodo-1,1'-biphenyls: versatile intermediates for the

synthesis of atropisomeric diphosphine ligands

Cereghetti, Marco; Arnold, Wolf; Broger, Emil A.; AUTHOR(S):

Rageot, Alain

CORPORATE SOURCE: F. Hoffmann-La Roche Ltd., Pharmaceuticals Div.,

Preclinical Res., Basel, CH-4002, Switz.

Tetrahedron Letters (1996), 37(30), 5347-5350 SOURCE:

CODEN: TELEAY; ISSN: 0040-4039

PUBLISHER: Elsevier Journal DOCUMENT TYPE:

English LANGUAGE:

CASREACT 125:221957 OTHER SOURCE(S):

Starting from enantiomerically pure 6,6'-dimethyl- or 6,6'-dimethoxy-2,2'-AB diiodo-1,1'-biphenyls (la or 1b) a variety of atropisomeric diphosphine ligands of defined axial chirality are directly accessible in good yields: asym. diphosphines of type B (I) and the corresponding diphosphines with one (type C) (II) or two (type D) (III) (R = Me, OMe; R1 = Ph, p-MeC6H4; R2 = Et, α -thienyl, cyclohexyl, etc.; R3 = tBu, cyclohexyl) stereogenic P atoms. Pitfalls of the lithiation/phosphination reaction are discussed. The number of P-chiral diastereomers can be reduced by thermal epimerization.

151489-75-7P 151489-77-9P 151489-80-4P IT

RN 151489-77-9 CAPLUS
CN Phosphine, dicyclopentyl[2'-(diphenylphosphino)-6,6'-dimethoxy[1,1'-biphenyl]-2-yl]-, (S)- (9CI) (CA INDEX NAME)

RN 151489-80-4 CAPLUS
CN Phosphine, [2'-[bis(1-methylethyl)phosphino]-6,6'-dimethoxy[1,1'-biphenyl]2-yl]diphenyl-, (S)- (9CI) (CA INDEX NAME)

RN 151489-82-6 CAPLUS
CN Phosphine, [2'-(diphenylphosphino)-6,6'-dimethoxy[1,1'-biphenyl]-2-yl]di-2-thienyl-, (S)- (9CI) (CA INDEX NAME)

RN 151489-89-3 CAPLUS

CN Phosphine, [2'-(diethylphosphino)-6,6'-dimethoxy[1,1'-biphenyl]-2-yl]diphenyl-, (S)- (9CI) (CA INDEX NAME)

RN 151516-07-3 CAPLUS

CN Phosphine, [2'-(di-2-furanylphosphino)-6,6'-dimethoxy[1,1'-biphenyl]-2-yl]diphenyl-, (S)- (9CI) (CA INDEX NAME)

RN 181257-17-0 CAPLUS

CN Phosphine, bis[3,5-bis(1,1-dimethylethyl)phenyl][2'-(diphenylphosphino)-6,6'-dimethoxy[1,1'-biphenyl]-2-yl]-, (S)- (9CI) (CA INDEX NAME)

ANSWER 191 OF 212 CAPLUS COPYRIGHT 2007 ACS on STN 1.3

ACCESSION NUMBER:

1996:457352 CAPLUS

DOCUMENT NUMBER:

125:221274

TITLE:

An efficient access to (R)- and (S)-6,6'-dimethoxy-

2,2'-diiodo-1,1'-biphenyl

AUTHOR(S):

Cereghetti, Marco; Schmid, Rudolf; Schoenholzer,

Peter; Rageot, Alain

CORPORATE SOURCE:

F. Hoffmann-La Roche Ltd., Pharmaceuticals Div.,

Preclinical Res., Basel, CH-4002, Switz.

Tetrahedron Letters (1996), 37(30), 5343-5346

CODEN: TELEAY; ISSN: .0040-4039

SOURCE:

PUBLISHER:

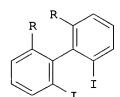
DOCUMENT TYPE:

LANGUAGE:

Journal English

Elsevier

GI



AΒ In a better procedure than the known for (rac)-I (R = Me), the diamine (rac)-I (R = MeO) was resolved for the first time with the new resolving agent (R,R)- and (S,S)-2,3-di(phenylaminocarbonyl)tartaric acid (40-45% weight yields; >99% ee). The diamines (R) - or (S)-I (R = Me, MeO) were converted with >98% stereochem. retention into the diiodides (R)- and (S)-II and subsequently, without loss of optical purity, diphenylphosphinated to the known diphosphines.

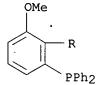
ΙI

ΙT 133545-16-1P

> RL: SPN (Synthetic preparation); PREP (Preparation) (prepn.of (R) - and (S) - 6, 6' - dimethoxy - 2, 2' - diiodo - 1, 1' - biphenyl)

RN 133545-16-1 CAPLUS

CN Phosphine, 1,1'-[(1R)-6,6'-dimethoxy[1,1'-biphenyl]-2,2'-diyl]bis[1,1diphenyl- (CA INDEX NAME)



L3 ANSWER 192 OF 212 CAPLUS COPYRIGHT 2007 ACS on STN

ACCESSION NUMBER:

1996:42703 CAPLUS

DOCUMENT NUMBER:

124:202507

TITLE:

Kinetic resolution of racemic tricarbonyl(2-chloroanisole)chromium via palladium-catalyzed

asymmetric alkoxycarbonylation

AUTHOR(S):

Carpentier, Jean-Francois; Pamart, Laurent;

Maciewjeski, Lucien; Castanet, Yves; Brocard, Jacques;

Mortreux, Andre

CORPORATE SOURCE:

Group Chimie Organique Appliquee, Ecole Nationale

Superieure Chimie Lille, Villeneuve d'Ascq, 59652, Fr.

SOURCE:

Tetrahedron Letters (1996), 37(2), 167-70 CODEN: TELEAY; ISSN: 0040-4039

Elsevier

PUBLISHER: DOCUMENT TYPE:

Journal

LANGUAGE:

English

OTHER SOURCE(S):

CASREACT 124:202507

AB Tricarbonyl(o-chloroanisole)chromium was treated with an alc. and CO in the presence of NEt3 and a chiral Pd catalyst to give (o-methoxybenzoate ester)Cr(CO)3 complexes in high selectivity with up to 30% ee. Starting tricarbonyl(o-chloroanisole)chromium was recovered in up to 39% ee. The Pd/PPFA catalytic system exhibited high reactivity and selectivity for the carbonylation reaction.

IT 133545-17-2

RL: CAT (Catalyst use); USES (Uses)

(kinetic resolution of racemic tricarbonyl(chloroanisole)chromium via palladium-catalyzed asym. alkoxycarbonylation)

RN 133545-17-2 CAPLUS

CN Phosphine, 1,1'-[(1S)-6,6'-dimethoxy[1,1'-biphenyl]-2,2'-diyl]bis[1,1-diphenyl- (CA INDEX NAME)

L3 ANSWER 193 OF 212 CAPLUS COPYRIGHT 2007 ACS on STN

ACCESSION NUMBER: 1996:34342 CAPLUS

DOCUMENT NUMBER: 124:87929

TITLE: Regio- and stereoregular copolymerization of propene'

with carbon monoxide catalyzed by palladium complexes

containing atropisomeric diphosphine ligands

AUTHOR(S): Bronco, Simona; Consiglio, Giambattista

CORPORATE SOURCE: Eidgenoessische Technische Hochschule, Lab. Tech.

Chemie, ETH-Zentrum, Zurich, CH-8092, Switz.

SOURCE: Macromolecular Chemistry and Physics (1996), 197(1),

355-65

CODEN: MCHPES; ISSN: 1022-1352

PUBLISHER: Huethig & Wepf

DOCUMENT TYPE: Journal LANGUAGE: English

The use of palladium catalysts, modified by chelate diphosphine ligands AB based on a di-Ph atropisomeric moiety, permits a good control of regioand stereochem. in the alternating copolymn. of propene with carbon monoxide. The completely aromatic ligands (S)-(6,6'-dimethoxybiphenyl-2,2'diyl)bis(diphenylphosphine) and (S)-(6,6'-dimethylbiphenyl-2,2'diyl)bis(diphenylphosphine) give regioirregular materials. Their stereoregularity cannot be easily evaluated but appears to be rather low on the basis of optical activity detns. Completely regionegular copolymn. takes place when ligands containing sterically hindered alkyl substituents on the phosphorus atoms (such as cyclohexyl or isopropyl) are used. The copolymers produced show a high degree of stereoregularity approaching 96% of 1-diads. Ligands lacking C2 symmetry show only a small decrease in regioregularity and stereoregularity. Very high catalytic activity is observed with the ligand (all S)-(Ra)-(6,6'-dimethoxybiphenyl-2,2'diyl)bis(2,5-dimethylphospholane). This ligand allows the production of a completely regionegular copolymer that shows almost complete atacticity.

IT 133545-17-2 145214-57-9 150971-43-0 150971-51-0 150971-55-4 172617-14-0 RL: CAT (Catalyst use); USES (Uses)

(catalyst; regioregular and stereoregular copolymn. of propene with carbon monoxide catalyzed by palladium complexes containing atropisomeric diphosphine ligands)

RN 133545-17-2 CAPLUS

CN Phosphine, 1,1'-[(1S)-6,6'-dimethoxy[1,1'-biphenyl]-2,2'-diyl]bis[1,1-diphenyl- (CA INDEX NAME)

RN 145214-57-9 CAPLUS

CN Phosphine, [(1R)-6,6'-dimethoxy[1,1'-biphenyl]-2,2'-diyl]bis[di-2-furanyl-(9CI) (CA INDEX NAME)

RN 150971-43-0 CAPLUS

CN Phosphine, [(1S)-6,6'-dimethoxy[1,1'-biphenyl]-2,2'-diyl]bis[bis(1-methylethyl)- (9CI) (CA INDEX NAME)

RN 150971-51-0 CAPLUS

CN Phosphine, [(1S)-6,6'-dimethoxy[1,1'-biphenyl]-2,2'-diyl]bis[dicyclobutyl-(9CI) (CA INDEX NAME)

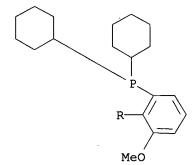
RN 150971-55-4 CAPLUS

CN Phosphine, [(1S)-6,6'-dimethoxy[1,1'-biphenyl]-2,2'-diyl]bis[dicyclopentyl-(9CI) (CA INDEX NAME)

RN 172617-14-0 CAPLUS

CN Phosphine, (6,6'-dimethoxy[1,1'-biphenyl]-2,2'-diyl)bis[dicyclohexyl-, (R)- (9CI) (CA INDEX NAME)

PAGE 1-A



L3 ANSWER 194 OF 212 CAPLUS COPYRIGHT 2007 ACS on STN

ACCESSION NUMBER: 1995:875129 CAPLUS

DOCUMENT NUMBER: 124:56233

TITLE: 1,3-Diphenylallyl Complexes of Palladium(II): NMR,

x-ray, and Catalytic Studies

AUTHOR(S): Barbaro, Pierluigi; Pregosin, Paul S.; Salzmann,

Renzo; Albinati, Alberto; Kunz, Roland

CORPORATE SOURCE: Laboratorium fuer Anorganische Chemie, ETH Zentrum,

Zurich, 8092, Switz.

SOURCE: Organometallics (1995), 14(11), 5160-70

CODEN: ORGND7; ISSN: 0276-7333

PUBLISHER: American Chemical Society

DOCUMENT TYPE: Journal LANGUAGE: English

1,3-Diphenylallyl complexes of Pd(II) containing achiral as well as new and com. available chiral auxiliaries were prepared, and their allyl 13C-NMR characteristics were recorded. Some results for the catalytic allylic alkylation reaction are given with the best new result, for (R)-BIPHEMP (BIPHEMP = 2,2'-bis(diphenylphosphino)-6,6'-dimethylbiphenyl), showing an enantiomeric excess of 90%. The solid-state structure for [Pd(n3-PhCHCHCHPh)(TMEDA)]BF4 was determined by x-ray diffraction. Mol. mechanics methods were used to understand some differences between the chiral pockets of selected chelating phosphine ligands. The selective allyl isomerization dynamics for the methoxy-BIPHEMP complex [Pd(η 3-PhCHCHCHPh)(2,2'-bis(diphenylphosphino)-6,6'dimethoxybiphenyl)]PF6 and the ferrocene-based JOSIPHOS complex (JOSIPHOS = (R)-{1-[(S)-(diphenylphosphino) ferrocenyl]ethyl}dicyclohexylphosphine), $[Pd(\eta_3-PhCHCHCHPh) \{CpFe(C5H3(1-CHMePCy2)-2-PPh2)\}]CF3SO3, 9, were$ followed by 2-dimensional exchange spectroscopy. The observed ee for 9 does not correlate with expectations based on 13C data, together with a ground state population anal.; i.e., the reaction kinetics for different diastereomers may be important. The 1,3-diphenylallyl substrate is special in that its Ph groups can stack with the Ph groups of the chiral

IT 133545-17-2, (S)-2,2'-Bis (diphenylphosphino)-6,6'-

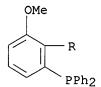
dimethoxybiphenyl

RL: RCT (Reactant); RACT (Reactant or reagent)

(for preparation of palladium allyl bidentate-ligand complex)

RN 133545-17-2 CAPLUS

CN Phosphine, 1,1'-[(1S)-6,6'-dimethoxy[1,1'-biphenyl]-2,2'-diyl]bis[1,1-diphenyl- (CA INDEX NAME)



L3 ANSWER 195 OF 212 CAPLUS COPYRIGHT 2007 ACS on STN

ACCESSION NUMBER: 1995:833768 CAPLUS

DOCUMENT NUMBER: 124:56073

TITLE: Crystal structure of a new chiral Pd(0)/diphosphine

complex and its use in enantioselective allylic

alkylations

AUTHOR(S): Bolm, Carsten; Kaufmann, Daniel; Gessler, Simon;

Harms, Klaus

CORPORATE SOURCE: Fachbereich Chemie der Philipps-Universitaet Marburg,

Hans-Meerwein-Strasse, Marburg, D-35032, Germany

SOURCE: Journal of Organometallic Chemistry (1995), 502(1-2),

47-52

CODEN: JORCAI; ISSN: 0022-328X

PUBLISHER: Elsevier DOCUMENT TYPE: Journal LANGUAGE: English

OTHER SOURCE(S): CASREACT 124:56073

GI

AB The crystal structure of the new chiral Pd(0) complex (R,R)-I bearing two homochiral diphosphine ligands is reported. Its catalytic activity and enantioselectivity in allylic substitution reactions were investigated and the results compared to those obtained with various in-situ catalyst systems derived from [Pd(allyl)Cl]2 and diphosphine (R)-II.

IT 133545-16-1

RL: CAT (Catalyst use); RCT (Reactant); RACT (Reactant or reagent); USES (Uses)

(crystal structure of chiral Pd(0)/diphosphine complex and use in enantioselective allylic alkylations)

RN 133545-16-1 CAPLUS

CN Phosphine, 1,1'-[(1R)-6,6'-dimethoxy[1,1'-biphenyl]-2,2'-diyl]bis[1,1-diphenyl- (CA INDEX NAME)

ANSWER 196 OF 212 CAPLUS COPYRIGHT 2007 ACS on STN

ACCESSION NUMBER:

1995:678980 CAPLUS

DOCUMENT NUMBER:

123:313373

TITLE:

Practical asymmetric hydrogenation of β -keto

esters at atmospheric pressure using chiral Ru(II)

catalysts

AUTHOR(S):

Genet, J. P.; Ratovelomanana-Vidal, V.; Cano de

Andrade, M. C.; Pfister, X.; Guerreiro, P.; Lenoir, J.

CORPORATE SOURCE:

Lab. Synth. Org., Ec. Natl. Super. Chim, Paris, 75231,

SOURCE:

Tetrahedron Letters (1995), 36(27), 4801-4

CODEN: TELEAY; ISSN: 0040-4039

PUBLISHER:

Elsevier Journal

DOCUMENT TYPE:

LANGUAGE:

English

OTHER SOURCE(S):

CASREACT 123:313373

New practical conditions of asym. hydrogenation of β -keto esters with chiral Ru(II) catalysts are described. It is now possible to carry out the reaction at atmospheric pressure. Under these conditions, β -keto esters are hydrogenated to β -hydroxy esters with excellent enantiomeric excesses (up to 99%) using chiral ruthenium (II) catalysts easily prepared in situ by treatment of com. available (COD)Ru(2-methylallyl)2 in the presence of the appropriate chiral ligands such as Binap, MeO-Biphep and Me-Duphos.

133545-16-1 133545-17-2 ΙT

RL: CAT (Catalyst use); USES (Uses)

(asym. hydrogenation of β -keto esters at atmospheric pressure using chiral Ru(II) catalysts)

RN133545-16-1 CAPLUS

Phosphine, 1,1'-[(1R)-6,6'-dimethoxy[1,1'-biphenyl]-2,2'-diyl]bis[1,1-CN diphenyl- (CA INDEX NAME)

RN133545-17-2 CAPLUS

Phosphine, 1,1'-[(1S)-6,6'-dimethoxy[1,1'-biphenyl]-2,2'-diyl]bis[1,1-CN diphenyl- (CA INDEX NAME)

ANSWER 197 OF 212 CAPLUS COPYRIGHT 2007 ACS on STN

ACCESSION NUMBER:

1995:538463 CAPLUS

DOCUMENT NUMBER:

122:290712

TITLE:

Process for enantioselective hydrogenation of

2H-pyran-2-ones

INVENTOR(S): PATENT ASSIGNEE(S): Broger, Emil Albin; Karpf, Martin; Zutter, Ulrich

F. Hoffmann-La Roche AG, Switz.

SOURCE:

Eur. Pat. Appl., 14 pp. CODEN: EPXXDW

DOCUMENT TYPE:

Patent

LANGUAGE:

German

FAMILY ACC. NUM. COUNT:

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
EP 643052	A2	19950315	EP 1994-113871	19940905
EP. 643052	A3	19950322		
EP 643052	B1	19961218		
R: AT, BE, CH,	DE, DK	, ES, FR,	GB, IT, LI, NL	
US 5481008	Α	19960102	US 1994-298734	19940831
AT 146465	T	19970115	AT 1994-113871	19940905
ES 2096388	т3	19970301	ES 1994-113871	19940905
JP 07165747	Α	19950627	JP 1994-216425	19940909

JP 3598133	В2	20041208			
CN 1106002	Α	19950802	CN 1994-115274		19940912
CN 1053902	В	20000628			
RU 2127267	C1	19990310	RU 1994-33115		19940912
PRIORITY APPLN. INFO.:			СН 1993-2738	Α	19930913
OTHER SOURCE(S):	CASRE	ACT 122:2907	12; MARPAT 122:290712	2	
GT					

$$\begin{array}{c|c}
 & O \\
 & R^2 \\
 & R^5 \\
 & R^6
\end{array}$$

$$\begin{array}{c}
 & R^1 \\
 & OR^3
\end{array}$$

Dihydro-2H-pyran-2-ones I [R1,R2 = (O-interrupted) alkyl, (un)substituted CH2Ph; R3 = H, alkyl, (un)substituted CH2Ph, alkanoyl, etc.] (II; R5 = R6 = H) were prepared by asym. hydrogenation of II (R5R6 = bond) in the presence of a complex of an optically active atropisomeric diphosphine ligand and a Group VIII metal. Thus, I (R1 = hexyl, R2 = undecyl) (III; R3 = H, R5R6 = bond) was hydrogenated at 60° and 60bar in MeOH in the presence of a catalyst prepared by treating Ru(OAc)2[(S)-3,5-tert-Bu-MeOBIPHEP] with aqueous HBF4 to give a product comprising III (R3 = H, R5 = R6 = H) (92% optical purity) 73, III (R3 = Me, R5 = R6 = H) (92.1%ee) 20, and tetrahydro-product 5%.

IT 150971-39-4 167709-31-1

Ι

RL: CAT (Catalyst use); USES (Uses)

(process for enantioselective hydrogenation of 2H-pyran-2-ones)

RN 150971-39-4 CAPLUS

CN Phosphine, (6,6'-dimethoxy[1,1'-biphenyl]-2,2'-diyl)bis[bis[3,5-bis(triethylsilyl)phenyl]-, (R)- (9CI) (CA INDEX NAME)

PAGE 2-A

RN

CN

167709-31-1 CAPLUS
Phosphine, 1,1'-[(1S)-6,6'-dimethoxy[1,1'-biphenyl]-2,2'-diyl]bis[1,1-bis[3,5-bis(1,1-dimethylethyl)phenyl]- (CA INDEX NAME)

ANSWER 198 OF 212 CAPLUS COPYRIGHT 2007 ACS on STN

t-Bu

1995:476981 CAPLUS ACCESSION NUMBER:

DOCUMENT NUMBER:

123:143550

A new enantioselective synthesis of glycidates via TITLE:

dynamic kinetic resolution of racemic 2-chloro-3-keto

esters using chiral Ru(II) complexes

Genet, Jean-Pierre; Cano de Andrade, M. C.; AUTHOR(S):

Ratovelomanana-Vidal, V.

Lab. Synthese Organique, Ec. Nationale Superieure de Chimie de Paris, Paris, 75231, Fr. CORPORATE SOURCE:

SOURCE: Tetrahedron Letters (1995), 36(12), 2063-6

CODEN: TELEAY; ISSN: 0040-4039

PUBLISHER: Elsevier Journal DOCUMENT TYPE:

English . LANGUAGE:

CASREACT 123:143550 OTHER SOURCE(S):

GI

2-Chloro-3-keto esters RCOCHClCO2R1 (R = Ph, Me, R1 = Et; R = 4-MeOC6H4, AΒ R1 = Me) were quant. hydrogenated to syn and anti 2-chloro-3-hydroxy

esters by asym. hydrogenation with chiral ruthenium(II) catalysts prepared in-situ from (COD) Ru(2-Methylallyl)2 in the presence of atropisomeric ligands such as MeO-Biphep and Binap, giving enantioselectivities up to 99%. The 2-Chloro-3-hydroxy esters were treated with different bases to give (E) - and (Z) -2,3-epoxyalkanoates, e.g., I, in 65-90% yields with 84-97% ee.

ΙT 133545-16-1

> RL: CAT (Catalyst use); USES (Uses) (enantioselective synthesis of glycidates via kinetic resolution of racemic chloroketo esters using chiral Ru complexes)

ŔŊ 133545-16-1 CAPLUS

CN Phosphine, 1,1'-[(1R)-6,6'-dimethoxy[1,1'-biphenyl]-2,2'-diyl]bis[1,1diphenyl- (CA INDEX NAME)

OMe R PPh2

Ph₂P MeO

ANSWER 199 OF 212 CAPLUS COPYRIGHT 2007 ACS on STN

ACCESSION NUMBER:

1995:363532 CAPLUS

DOCUMENT NUMBER:

122:177006

TITLE:

Synthesis and structural characterization of the tetraruthenium cluster complexes [Ru4(μ-H)4(CO)10(L-

L)] (L-L = diphosphine)

AUTHOR(S):

Braga, Dario; Matteoli, Ugo; Sabatino, Piera;

Scrivanti, Alberto

CORPORATE SOURCE:

Dip. Chim. G. Ciamician, Univ. Bologna, Bologna,

40126, Italy

SOURCE:

Journal of the Chemical Society, Dalton Transactions:

Inorganic Chemistry (1995), (3), 419-23

CODEN: JCDTBI; ISSN: 0300-9246

PUBLISHER:

Royal Society of Chemistry

DOCUMENT TYPE:

Journal

LANGUAGE:

English

The clusters [Ru4(μ -H)4(CO)10{(S)(-)-binap}] (1) and $[Ru4(\mu-H)4(CO)10{(S)(-)-mobiph}]$ (2) containing the atropisomeric diphosphine ligands (S)(-)-2,2'-bis(diphenylphosphino)-1,1'-binaphthyl (binap) and (S)(-)-2,2'-bis(diphenylphosphino)-6,6'-dimethoxy-1,1'biphenyl (mobiph) were synthesized via direct reaction of [Ru4H4(CO)12] in toluene at 150° with a 2-fold excess of the diphosphine under H2 Their mol. and crystal structures were determined by single-crystal x-ray diffraction: both crystallize in the orthorhombic system, space group P212121, Z = 4; a 13.009(7), b 14.357(2), c 29.109(7) Å for 1; a 12.108(8), b 15.845(3), c 28.241(5) Å for 2. In both complexes the diphosphine ligand chelates the Ru atom involved in three hydride bridges.

133545-17-2, (S) (-) -2,2'-Bis (diphenylphosphino)-6,6'-dimethoxy-ΙT 1,1'-biphenyl

RL: RCT (Reactant); RACT (Reactant or reagent)

(for preparation of ruthenium carbonyl hydrido diphosphine tetranuclear cluster)

133545-17-2 CAPLUS RN

Phosphine, 1,1'-[(1S)-6,6'-dimethoxy[1,1'-biphenyl]-2,2'-diyl]bis[1,1-CN diphenyl- (CA INDEX NAME)

OMe

Ph₂P MeO

ANSWER 200 OF 212 CAPLUS COPYRIGHT 2007 ACS on STN

Journal

ACCESSION NUMBER:

1995:23857 CAPLUS

DOCUMENT NUMBER:

122:80842

TITLE:

Dynamic kinetic resolution of cyclic β -keto

esters with preformed or in-situ prepared chiral

diphosphine-ruthenium(II) catalysts

AUTHOR(S):

SOURCE:

Genet, J. P.; Pfister, X.; Ratovelomanana-Vidal, V.;

Pinel, C.; Laffitte, J. A.

CORPORATE SOURCE:

CNRS, Pierre Marie Curie, Paris, 75231, Fr. Tetrahedron Letters (1994), 35(26), 4559-62

CODEN: TELEAY; ISSN: 0040-4039

DOCUMENT TYPE:

LANGUAGE: English

The reduction of racemic β -keto esters having the tetralone structure by chiral ruthenium(II) catalysts is realized with an ideal kinetic dynamic resolution Anti selectivity approaching 100% and enantioselectivity up to 97% are obtained using atropisomeric ligands. The trans β -hydroxy esters thus available are useful starting materials for production of enantiomerically pure compds.

ΙT 133545-16-1

RL: RCT (Reactant); RACT (Reactant or reagent) (catalysts containing methallylruthenium, for asym. hydrogenation of oxo esters)

133545-16-1 CAPLUS RN

CN Phosphine, 1,1'-[(1R)-6,6'-dimethoxy[1,1'-biphenyl]-2,2'-diyl]bis[1,1diphenyl- (CA INDEX NAME)

L3 ANSWER 201 OF 212 CAPLUS COPYRIGHT 2007 ACS on STN

ACCESSION NUMBER: 1994:298626 CAPLUS

DOCUMENT NUMBER: 120:298626

TITLE: Asymmetric hydrogenation with optically active

ruthenium diphosphine catalysts and application to a

cilazapril intermediate

INVENTOR(S): Broger, Emil Albin; Crameri, Yvo; Imfeld, Marquard;

Montavon, Francois; Widmer, Erich

PATENT ASSIGNEE(S): F. Hoffmann-La Roche & Co. AG, Switz.

SOURCE: Eur. Pat. Appl., 18 pp.

CODEN: EPXXDW

DOCUMENT TYPE: Patent

LANGUAGE: German

FAMILY ACC. NUM. COUNT: 5

PATENT INFORMATION:

PAT	ENT N	ю.			KINI) DA	TE	AP	PLICATION	NO.		DATE
	57076	_			A2		931124		1993-107	 272	_	19930505
	57076	-		,	A3		940629 010718					
EP	57076 R:	_	BE,	CH,	B1 DE,				T, LI, NL			
AT	20324	•		·	T		010815		1993-107			19930505
ES	21640	156			Т3	20	020216	ES	1993-107	272		19930505
JP	06032	780			Α	19	940208	JP	1993-114	776		19930517
JP	35263	10			B2	20	040510					
US	57506	90			Α	19	980512	US	1996-690	215		19960726
PRIORITY	APPL	N. 3	INFO	.:				CH	1992-158	2	Α	19920518
								CH	1993-729		Α	19930311
								US	1993-572	31	В1	19930504
								US	1994-330	404	В1	19941028

OTHER SOURCE(S): CASREACT 120:298626; MARPAT 120:298626

GI

(R) - or (S) -stereoisomers of heterocycles I [R = alkyl, arylmethyl, aryl,AB alkoxy, arylmethoxy, aryloxy; or RR = CH2, CH2CH2, 1,2-C6H4; n = 1, 2, 3] are prepared by asym. hydrogenation of corresponding unsatd. heterocycles II or their salts in the presence of optically active Ru diphosphine complexes as catalysts. Addnl. claims specify the diphosphines, and the example product and reactant given below, and cover starting materials and their preparation For example, hydrogenation of the tetrahydropyridazinophthalazine II (RR = 1,2-C6H4, n = 2) in MeOH containing Et3N and the complex Ru(OAc)2[(S)-p-TolMeOBIPHEP] [cited ligand = (S)-(6,6'-dimethoxybiphenyl-2,2'-diyl)bis[di-(p-tolyl)phosphine]] at 60° and 40 bar gave 100% conversion in 1 h. Workup and acidic precipitation of product gave (S)-I (RR = 1,2-C6H4, n = 2) [(S)-III], an intermediate for the antihypertensive cilazapril, in 96% yield and 98.9% optical purity. Addnl. similar catalysts gave 85-95% yield and 97.3-98.9% optical purity for the same reaction. Addnl. examples include analogous preparation of (R)-III, and prepns. of the starting material.

IT 145265-37-8
 RL: RCT (Reactant); RACT (Reactant or reagent)
 (Grignard reaction of, in preparation of ligand for ruthenium hydrogenation catalysts)

RN 145265-37-8 CAPLUS
CN Phosphonic acid, (6,6'-dimethoxy[1,1'-biphenyl]-2,2'-diyl)bis-,
tetraphenyl ester, (S)- (9CI) (CA INDEX NAME)

IT

RN

CN

151489-76-8
RL: RCT (Reactant); RACT (Reactant or reagent)
 (catalyst precursor with ruthenium species, for asym. hydrogenation of tetrahydropyridazinophthalazine derivative and analogs)
151489-76-8 CAPLUS
Phosphine, dicyclohexyl[2'-(diphenylphosphino)-6,6'-dimethoxy[1,1'-biphenyl]-2-yl]-, (S)- (9CI) (CA INDEX NAME)

IT 150971-42-9P RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)

(preparation and reduction of, in preparation of ligand for ruthenium catalysts)

150971-42-9 CAPLUS RN

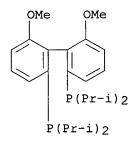
Phosphine oxide, (6,6'-dimethoxy[1,1'-biphenyl]-2,2'-diyl)bis[bis(1-CN methylethyl)-, (S)- (9CI) (CA INDEX NAME)

ΙT 150971-43-0P

> RL: SPN (Synthetic preparation); PREP (Preparation) (preparation of, as catalyst precursor with ruthenium species for asym. hydrogenation)

RN150971-43-0 CAPLUS

Phosphine, [(1S)-6,6'-dimethoxy[1,1'-biphenyl]-2,2'-diyl]bis[bis(1-CN methylethyl) - (9CI) (CA INDEX NAME)



ANSWER 202 OF 212 CAPLUS COPYRIGHT 2007 ACS on STN

ACCESSION NUMBER:

DOCUMENT NUMBER: TITLE:

1994:270103 CAPLUS 120:270103

Preparation of optically active 6,7,8,9tetrahydropyrido[1,2-a]indole-8-methanol and derivatives by asymmetric hydrogenation of 6,7-dihydropyrido[1,2-a]indole-8-methanol and

derivatives.

INVENTOR(S):

Broger, Emil Albin

PATENT ASSIGNEE(S):

F. Hoffmann-La Roche AG, Switz.

SOURCE:

Eur. Pat. Appl., 15 pp.

CODEN: EPXXDW

DOCUMENT TYPE:

Patent

LANGUAGE:

German

FAMILY ACC. NUM. COUNT:

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	_	DATE
EP 574783	A2	19931222	EP 1993-109092		19930607
EP 574783	A3	19940608			
EP 574783	B1	19991006			
R: AT, BE, CH,					19930527
US 5374727	Α	19941220	US 1993-68358		
AT 185346	${f T}$	19991015	AT 1993-109092	•	19930607
ES 2138605	Т3	20000116	ES 1993-109092		19930607
JP 06065240	Α	19940308	JP 1993-168371		19930616
JP 2788841	B2	19980820			
PRIORITY APPLN. INFO.:			CH 1992-1944	Α	19920619
			СН 1993-826	Α	19930318
OTHER SOURCE(S):	CASREA	CT 120:27010	3; MARPAT 120:270103		

GI

$$R^{2}$$
 R^{3}
 R^{3}
 R^{1}
 R^{2}
 R^{3}
 R^{3}
 R^{1}
 R^{2}
 R^{3}
 R^{3}
 R^{4}
 R^{1}
 R^{2}
 R^{3}
 R^{1}
 R^{2}
 R^{3}
 R^{4}
 R^{1}
 R^{2}
 R^{3}
 R^{4}
 R^{1}
 R^{2}
 R^{3}
 R^{4}
 R^{4

Title compds. (I; R1, R2, R3 = H, halo, alkyl, haloalkyl, OH, alkoxy, AΒ alkylthio, alkylsulfinyl, alkylsulfonyl, NO2, amino, acylamino; starred atom has S- or R-configuration), were prepared by hydrogenation of dihydro derivs (II; R1-R3 as above) in the presence of an optically active Rh diphosphine complex. Thus, $Di-\mu$ -chlorobis(1,5cyclooctadiene)dirhodium(I) and (S)-MeOBIPHEP [MeOBIPHEP = (6,6'-dimethoxybiphenyl-2,2'-diyl)bis(diphenylphosphine)] were stirred in PhMe and the mixture was stirred 10 min. The catalyst mixture and II (R1-R3 = H) (preparation given) in PhMe were placed in an autoclave which was heated at 80° under 60 bar H for 18 h to give 100% R-I (R1-R3 = H) in 93.7% enantiomeric excess.

IT 133545-17-2

> RL: RCT (Reactant); RACT (Reactant or reagent) (catalyst from, for asym. hydrogenation of dihydropyridoindolemethanols)

133545-17-2 CAPLUS RN

Phosphine, 1,1'-[(1S)-6,6'-dimethoxy[1,1'-biphenyl]-2,2'-diyl]bis[1,1-CN diphenyl- (CA INDEX NAME)

L3 ANSWER 203 OF 212 CAPLUS COPYRIGHT 2007 ACS on STN

ACCESSION NUMBER: 1994:269766 CAPLUS

DOCUMENT NUMBER: 120:269766

TITLE: Palladium-catalyzed enantioselective

bis(alkoxycarbonylation) of olefins

AUTHOR(S): Nefkens, Sylvia C. A.; Sperrle, Martin; Consiglio,

Giambattista

Journal

CORPORATE SOURCE: Lab. Tech. Chem., Eidg. Tech. Hochsch., Zurich,

CH-8092, Switz.

SOURCE: Angewandte Chemie (1993), 105(12), 1837-8 (See also

Angew. Chem., Int. Ed. Engl., 1993, 32(12), 1719-20)

CODEN: ANCEAD; ISSN: 0044-8249

DOCUMENT TYPE:

LANGUAGE: German

OTHER SOURCE(S): CASREACT 120:269766

GΙ

AB The title reaction is described. Thus, [Pd(acac)2] catalyzed bis(alkoxycarbonylation) of styrene with CO/MeOH in the presence of ligand (S)-I, 4-MeC6H4SO3H, and benzoquinone gave 40% (S)-di-Me phenylcinnamate in 93% enantiomeric excess.

IT 133545-17-2

RL: RCT (Reactant); RACT (Reactant or reagent)
(catalyst containing palladium, toluenesulfonic acid and, for enantioselective bis(alkoxycarbonylation) of styrene)

RN 133545-17-2 CAPLUS

CN Phosphine, 1,1'-[(1S)-6,6'-dimethoxy[1,1'-biphenyl]-2,2'-diyl]bis[1,1-diphenyl- (CA INDEX NAME)

L3 ANSWER 204 OF 212 CAPLUS COPYRIGHT 2007 ACS on STN ACCESSION NUMBER: 1994:54457 CAPLUS

DOCUMENT NUMBER:

120:54457

TITLE:

Asymmetric hydrogenation of pyridyl

bis(trifluoromethyl)quinolyl ketone by rhodium

catalysts containing chiral diphosphines

INVENTOR(S):

Broger, Emil Albin; Hofheinz, Werner; Meili, Arthur

Hoffmann-La Roche, F., und Co. A.-G., Switz.

PATENT ASSIGNEE(S): SOURCE:

Eur. Pat. Appl., 16 pp.

CODEN: EPXXDW

DOCUMENT TYPE:

Patent

LANGUAGE:

German

FAMILY ACC. NUM. COUNT:

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.		DATE
EP 553778	A1	19930804	EP 1993-101179	_	19930127
EP 553778	B1	20011212			
R: AT, BE, CH,	DE, DK	, ES, FR, GB	B, IT, LI, NL		
AT 210655	T	20011215	AT 1993-101179		19930127
ES 2168262	Т3	20020616	ES 1993-101179		19930127
JP 06016634	Α	19940125	JP 1993-32418		19930129
JP 3334213	B2	20021015			
CN 1079960	Α	19931229	CN 1993-102525		19930130
CN 1045436	В	19991006			
US 5514805	Α	19960507	US 1994-225408		19940408
PRIORITY APPLN. INFO.:			CH 1992-289	Α	19920131
			US 1993-10120	В1	19930128
OTHER SOURCE(S):	CASREA	CT 120:54457	': MARPAT 120:54457		

GI

$$PR^3_2$$
 PR^4_2
 PR^3_2
 AB A process for the preparation of chiral pyridine derivs. I wherein R = aryl or heteroaryl comprises the treatment of ketones such as II under asym. hydrogenation conditions using rhodium diphosphine complex catalysts of formula [Rh(X)(Y)(L0,1,2]1,2 wherein X = halogen, ZCO2, phenolate or halophenolate, Z = alkyl, Ph, haloalkyl or haloaryl, Y = chiral diphosphine ligand, e.g., III or ferrocenyl diphosphine complex, i.e., IV wherein R1, R2 = alkyl, alkoxy, dialkylamino, (protected) hydroxy or

hydroxymethyl, or R1R2 (together) = (CH2)m, CH2OCH2, CH2NR6CH2, etc., m = 3, 4, 5, R6 = alkyl, Ph, benzyl, R5 = alkyl, alkoxy, R3, R4 = alkyl, Ph, cycloalkyl, heteroarom., etc. For example, 2-pyridyl 2,8bis(trifluoromethyl)-4-quinolyl ketone was hydrogenated in the presence of $di-\mu$ -chlorobis (1,5-cyclooctadiene) $dirhodium(\bar{1})$ and (1R)-1,1'bis(diphenylphosphino)-2-[(S)-1-hydroxyethyl]ferrocene in EtOAc at 60° and 60 bar to give (S)- α -(2-pyridyl)-2,8bis(trifluoromethyl)-4-quinolinemethanol in 90.3% yield and 82.4% enantiomeric excess. IT 133545-16-1 133545-17-2 RL: RCT (Reactant); RACT (Reactant or reagent) (demethylation of) RN 133545-16-1 CAPLUS Phosphine, 1,1'-[(1R)-6,6'-dimethoxy[1,1'-biphenyl]-2,2'-diyl]bis[1,1-CN diphenyl- (CA INDEX NAME)

RN 133545-17-2 CAPLUS
CN Phosphine, 1,1'-[(1S)-6,6'-dimethoxy[1,1'-biphenyl]-2,2'-diyl]bis[1,1-diphenyl- (CA INDEX NAME)

CN [1,1'-Biphenyl]-2,2'-diol, 6,6'-bis(diphenylphosphino)-, (1R)- (CA INDEX NAME)

RN 151395-62-9 CAPLUS CN [1,1'-Biphenyl]-2,2'-diol, 6,6'-bis(diphenylphosphino)-, (1S)- (9CI) (CA INDEX NAME)

RN 151489-75-7 CAPLUS
CN Phosphine, dicyclohexyl[2'-(diphenylphosphino)-6,6'-dimethoxy[1,1'-biphenyl]-2-yl]-, (R)- (9CI) (CA INDEX NAME)

RN 151489-76-8 CAPLUS
CN Phosphine, dicyclohexyl[2'-(diphenylphosphino)-6,6'-dimethoxy[1,1'-biphenyl]-2-yl]-, (S)- (9CI) (CA INDEX NAME)

RN 151489-77-9 CAPLUS

CN Phosphine, dicyclopentyl[2'-(diphenylphosphino)-6,6'-dimethoxy[1,1'-biphenyl]-2-yl]-, (S)- (9CI) (CA INDEX NAME)

RN 151489-79-1 CAPLUS

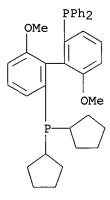
CN Phosphine, [2'-[bis(1-methylethyl)phosphino]-6,6'-dimethoxy[1,1'-biphenyl]-2-yl]diphenyl-, (R)- (9CI) (CA INDEX NAME)

RN 151489-80-4 CAPLUS

CN Phosphine, [2'-[bis(1-methylethyl)phosphino]-6,6'-dimethoxy[1,1'-biphenyl]-2-yl]diphenyl-, (S)- (9CI) (CA INDEX NAME)

RN 151516-06-2 CAPLUS

CN Phosphine, dicyclopentyl[2'-(diphenylphosphino)-6,6'-dimethoxy[1,1'-biphenyl]-2-yl]-, (R)- (9CI) (CA INDEX NAME)



L3 ANSWER 205 OF 212 CAPLUS COPYRIGHT 2007 ACS on STN

ACCESSION NUMBER: 1994:8746 CAPLUS

DOCUMENT NUMBER: 120:8746

TITLE: Diphosphine ligands

INVENTOR(S): Broger, Emil Albin; Cereghetti, Marco

PATENT ASSIGNEE(S): Hoffmann-La Roche, F., und Co. A.-G., Switz.

SOURCE: PCT Int. Appl., 24 pp.

CODEN: PIXXD2

DOCUMENT TYPE: Patent

LANGUAGE: German FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PA	rent :	NO.			KINI	DATE		AP	PLICAT	'ION NO.			DATE	
WO	9315	089			A1	 1993	0805	WO	1993-	CH16			19930122	2
		JP,												
	RW:	AT,	BE,	CH,	DE,	DK, ES,	FR,	GB, G	R, IE,	IT, LU,	MC,	NL	, PT, SI	\mathbf{E}
EP	5826	92			A1	1994	0216	EP	1993-	902011			19930122	2
EP	5826	92			В1	. 1998	0422							
	R:	AT,	BE,	CH,	DE,	DK, ES,	FR,	GB, I'	r, LI,	NL				
JP	0650	6484	•	-	T	1994	0721	JP	1993-	512828			19930122	2
JР	3369	560			В2	2003	0120							
AT	1653	61			Т	1998	0515	AT	1993-	902011			19930122	2
ES	2116	435			Т3	1998	0716	ES	1993-	902011			1993012	2
US	5508	438			Α	1996	0416	US	1993-	122426			1993092	4
PRIORIT	Y APP	LN.	INFO	. :				CH	1992-	290	7	A	1992013	1
								CH	1993-	132	1	Ą	1993011	8
								WO	1993-	-СН16	7	N	1993012	2
OTHER S	OURCE	(S):			CAS	REACT 12	0:87	46; MA	RPAT 1	20:8746				

OTHER SOURCE(S): CASREACT 120:8746; MARPAT 120:8746

GΙ

AB Described are new racemic and optically active phosphorus compds. of the formula I in which R is a lower alkyl, lower alkoxy or hydroxy group or a

protected hydroxy group and R1 and R2, which are different from each other, are a lower alkyl, cycloalkyl, aryl or five-membered hetero-aromatic group or a group of the formula II. The compds. of formula I act, in the form of complexes with a Group VIII metal, as catalysts for asym. hydrogenation reactions and enantiomer-selective hydrogen displacement reactions in prochiral allylic systems. E.g., 2-pyridyl-2,8bis(trifluoromethyl)-4-quinolyl ketone was hydrogenated by the catalytic solution prepared from bis(1,5-cyclooctadiene)rhodium(I) tetrafluoroborate, (R)-P, P-dicyclohexyl-P', P'-diphenyl-(6, 6'-dimethylbiphenyl-2, 2'diyl)diphosphine and Bu4NBr/toluene, to give product: (R)- α -(2pyridyl)-2,8-bis(trifluoromethyl)-4-quinolylmethanol in 92% yield. 151489-75-7P 151489-76-8P 151489-77-9P 151489-78-0P 151489-79-1P 151489-80-4P 151489-81-5P 151489-82-6P 151489-89-3P 151516-06-2P 151516-07-3P RL: SPN (Synthetic preparation); PREP (Preparation) (preparation of, as ligand for asym. hydrogenation with rhodium catalysts)

RN 151489-75-7 CAPLUS
CN Phosphine, dicyclohexyl[2'-(diphenylphosphino)-6,6'-dimethoxy[1,1'-biphenyl]-2-yl]-, (R)- (9CI) (CA INDEX NAME)

ΙT

RN 151489-76-8 CAPLUS
CN Phosphine, dicyclohexyl[2'-(diphenylphosphino)-6,6'-dimethoxy[1,1'-biphenyl]-2-yl]-, (S)- (9CI) (CA INDEX NAME)

RN 151489-77-9 CAPLUS
CN Phosphine, dicyclopentyl[2'-(diphenylphosphino)-6,6'-dimethoxy[1,1'-biphenyl]-2-yl]-, (S)- (9CI) (CA INDEX NAME)

RN 151489-78-0 CAPLUS

CN Phosphine, [2'-(di-2-furanylphosphino)-6,6'-dimethoxy[1,1'-biphenyl]-2-yl]diphenyl-, (R)- (9CI) (CA INDEX NAME)

RN 151489-79-1 CAPLUS

CN Phosphine, [2'-[bis(1-methylethyl)phosphino]-6,6'-dimethoxy[1,1'-biphenyl]-2-yl]diphenyl-, (R)- (9CI) (CA INDEX NAME)

RN 151489-80-4 CAPLUS

CN Phosphine, [2'-[bis(1-methylethyl)phosphino]-6,6'-dimethoxy[1,1'-biphenyl]-2-yl]diphenyl-, (S)- (9CI) (CA INDEX NAME)

RN 151489-81-5 CAPLUS

CN Phosphine, [2'-(diphenylphosphino)-6,6'-dimethoxy[1,1'-biphenyl]-2-yl]di-2-thienyl-, (R)- (9CI) (CA INDEX NAME)

RN 151489-82-6 CAPLUS

CN Phosphine, [2'-(diphenylphosphino)-6,6'-dimethoxy[1,1'-biphenyl]-2-yl]di-2-thienyl-, (S)- (9CI) (CA INDEX NAME)

RN 151489-89-3 CAPLUS

CN Phosphine, [2'-(diethylphosphino)-6,6'-dimethoxy[1,1'-biphenyl]-2-yl]diphenyl-, (S)- (9CI) (CA INDEX NAME)

RN 151516-06-2 CAPLUS

151516-07-3 . CAPLUS RN

Phosphine, [2'-(di-2-furanylphosphino)-6,6'-dimethoxy[1,1'-biphenyl]-2-CN yl]diphenyl-, (S)- (9CI) (CA INDEX NAME)

ANSWER 206 OF 212 CAPLUS COPYRIGHT 2007 ACS on STN

ACCESSION NUMBER:

1993:671399 CAPLUS

DOCUMENT NUMBER:

119:271399

TITLE:

Preparation of racemic and optically active

diphosphine ligands for use in ruthenium asymmetric hydrogenation catalysts for prochiral allylic systems

INVENTOR(S):

PATENT ASSIGNEE(S): SOURCE:

Foricher, Joseph; Schmid, Rudolf Hoffmann-La Roche, F., und Co. A.-G., Switz.

PCT Int. Appl., 19 pp.

CODEN: PIXXD2

DOCUMENT TYPE:

Patent

LANGUAGE:

German

FAMILY ACC. NUM. COUNT:

5

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 9315091	A1	19930805	WO 1993-CH26	19930201
W: JP, US RW: AT, BE, CH,	DE, DK	, ES, FR, GI	B, GR, IE, IT, LU, MC,	NL, PT, SE
EP 579797	A1	19940126	EP 1993-902021	19930201
EP 579797	B1	19990421		

	R: AT,	BE,	CH,	DE,	DK, ES, FR,	GB, IT, LI, NL		
JP	06506475			${f T}$	19940721	JP 1993-506424		19930201
JP	3369558			B2	20030120	•		
AT	179981			${f T}$	19990515	AT 1993-902020		19930201
AT	179176			${f T}$	19990515	AT 1993-902021		19930201
ES	2131575			Т3	19990801	ES 1993-902021		19930201
ES	2132215			Т3	19990816	ES 1993-902020		19930201
EP	565975			A2	19931020	EP 1993-105548		19930403
EP	565975			A3	19931103			
EP	565975			В1	19960904			
	R: AT,	BE,	CH,	DE,	DK, ES, FR,	GB, IT, LI, NL		
AΤ	142191			T	19960915	AT 1993-105548		19930403
ES	2091509			Т3	19961101	ES 1993-105548		19930403
JP	06025035			Α	19940201	JP 1993-109833		19930414
JP	3310381			B2	20020805			
US	5457219			Α	19951010	US 1993-122488		19930927
US	5514805			Α	19960507	US 1994-225408		19940408
US	5600015			Α	19970204	US 1995-445068		19950519
US	5750690			Α	19980512	US 1996-690215		19960726
PRIORITY	APPLN.	INFO	.:			CH 1992-289	Α	19920131
						CH 1992-1270		19920416
						CH 1992-1582		19920518
						CH 1992-1944		19920619
						US 1993-10120	B1	19930128
						WO 1993-CH26	W	19930201
						СН 1993-729	Α	19930311
						US 1993-44519		19930408
						US 1993-57231		19930504
						US 1994-203859		19940301
						US 1994-330404	B1	19941028

OTHER SOURCE(S):

CASREACT 119:271399; MARPAT 119:271399

Ι

150971-46-3P 150971-48-5P 150971-50-9P 150971-52-1P 150971-54-3P 150971-56-5P

Described are racemic optically active phosphorus compds. of the formula AΒ I, in which R is a lower alkyl or lower alkoxy group and R1 is a lower alkyl, cycloalkyl or substituted Ph group. The compds. of the formula I act, in the form of complexes with a group (IV) metal, i.e., $di(\eta 2-acetato)(\eta 4-1,5-cyclooctadiene)$ ruthenium (II) (II), as catalysts for asym. hydrogenation reactions and enantiomer-selective hydrogen displacement reactions in prochiral allylic systems. E.g., hydrogenation of 3,4,6,11-tetrahydro-6,11-dioxopyridazo[1,2a]phthalazine-1carboxylic acid by treatment with H2 and II and [(S)-6,6'dimethoxybiphenyl-2,2'-diyl]bis[diisopropylphosphine] gave (S)-1,2,3,4,6,11-hexahydro-6,11-dioxopyridazo[1,2b]phthalazine-1carboxylic acid in 96% yield. IT 145209-28-5P 145209-29-6P 150971-32-7P 150971-34-9P 150971-36-1P 150971-38-3P 150971-40-7P 150971-42-9P 150971-44-1P

150971-58-7P

RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)

(preparation and reduction of, ligand for metal catalyst of asym. hydrogenation

reaction by)

RN 145209-28-5 CAPLUS

CN Phosphine oxide, (6,6'-dimethoxy[1,1'-biphenyl]-2,2'-diyl)bis[bis([1,1'-biphenyl]-4-yl)-, (R)- (9CI) (CA INDEX NAME)

RN 145209-29-6 CAPLUS
CN Phosphine oxide, (6,6'-dimethoxy[1,1'-biphenyl]-2,2'-diyl)bis[bis([1,1'-biphenyl]-4-yl)-, (S)- (9CI) (CA INDEX NAME)

RN 150971-32-7 CAPLUS

CN Phosphine oxide, (6,6'-dimethoxy[1,1'-biphenyl]-2,2'-diyl)bis[bis([1,1':3',1''-terphenyl]-5'-yl)-, (S)- (9CI) (CA INDEX NAME)

PAGE 1-A

PAGE 2-A

RN 150971-34-9 CAPLUS

CN Phosphine oxide, (6,6'-dimethoxy[1,1'-biphenyl]-2,2'-diyl)bis[bis[3,5-bis(trimethylsilyl)phenyl]-, (R)- (9CI) (CA INDEX NAME)

PAGE 1-A

RN 150971-36-1 CAPLUS

CN Phosphine oxide, (6,6'-dimethoxy[1,1'-biphenyl]-2,2'-diyl)bis[bis[3,5-bis(trimethylsilyl)phenyl]-, (S)- (9CI) (CA INDEX NAME)

PAGE 1-A

PAGE 2-A

RN 150971-38-3 CAPLUS

CN Phosphine oxide, (6,6'-dimethoxy[1,1'-biphenyl]-2,2'-diyl)bis[bis[3,5-bis(triethylsilyl)phenyl]-, (R)- (9CI) (CA INDEX NAME)

PAGE 2-A

RN 150971-40-7 CAPLUS

CN Phosphine oxide, (6,6'-dimethoxy[1,1'-biphenyl]-2,2'-diyl)bis[bis[3,5-bis(triethylsilyl)phenyl]-, (S)- (9CI) (CA INDEX NAME)

PAGE 1-A

RN 150971-42-9 CAPLUS

CN Phosphine oxide, (6,6'-dimethoxy[1,1'-biphenyl]-2,2'-diyl)bis[bis(1-methylethyl)-, (S)- (9CI) (CA INDEX NAME)

RN 150971-44-1 CAPLUS

CN Phosphine oxide, (6,6'-dimethoxy[1,1'-biphenyl]-2,2'-diyl)bis[bis(1-methylethyl)-, (R)- (9CI) (CA INDEX NAME)

RN 150971-46-3 CAPLUS

CN Phosphine oxide, (6,6'-dimethoxy[1,1'-biphenyl]-2,2'-diyl)bis[diethyl-(9CI) (CA INDEX NAME)

RN 150971-48-5 CAPLUS

CN Phosphine oxide, (6,6'-dimethoxy[1,1'-biphenyl]-2,2'-diyl)bis[dicyclobutyl-, (R)- (9CI) (CA INDEX NAME)

RN 150971-50-9 CAPLUS

CN Phosphine oxide, (6,6'-dimethoxy[1,1'-biphenyl]-2,2'-diyl)bis[dicyclobutyl-, (S)- (9CI) (CA INDEX NAME)

RN 150971-52-1 CAPLUS

CN Phosphine oxide, (6,6'-dimethoxy[1,1'-biphenyl]-2,2'-diyl)bis[dicyclopentyl-, (R)- (9CI) (CA INDEX NAME)

RN 150971-54-3 CAPLUS

CN Phosphine oxide, (6,6'-dimethoxy[1,1'-biphenyl]-2,2'-diyl)bis[dicyclopentyl-, (S)- (9CI) (CA INDEX NAME)

RN 150971-56-5 CAPLUS

CN Phosphine oxide, (6,6'-dimethoxy[1,1'-biphenyl]-2,2'-diyl)bis[bis([1,1':3',1''-terphenyl]-5'-yl)-, (R)- (9CI) (CA INDEX NAME)

PAGE 1-A

RN 150971-58-7 CAPLUS

CN Phosphine oxide, (6,6'-dimethoxy[1,1'-biphenyl]-2,2'-diyl)bis[bis[4-(trimethylsilyl)phenyl]-, (R)- (9CI) (CA INDEX NAME)

RN 145209-26-3 CAPLUS
CN Phosphine, [(1S)-6,6'-dimethoxy[1,1'-biphenyl]-2,2'-diyl]bis[bis([1,1'-biphenyl]-4-yl)- (9CI) (CA INDEX NAME)

| Ph

| Ph '

RN 150971-33-8 CAPLUS
CN Phosphine, (6,6'-dimethoxy[1,1'-biphenyl]-2,2'-diyl)bis[bis([1,1':3',1''-terphenyl]-5'-yl)-, (S)- (9CI) (CA INDEX NAME)

PAGE 1-A

RN 150971-35-0 CAPLUS

CN Phosphine, (6,6'-dimethoxy[1,1'-biphenyl]-2,2'-diyl)bis[bis[3,5-bis(trimethylsilyl)phenyl]-, (R)- (9CI) (CA INDEX NAME)

PAGE 1-A

PAGE 2-A

RN 150971-37-2 CAPLUS

CN Phosphine, [(1S)-6,6'-dimethoxy[1,1'-biphenyl]-2,2'-diyl]bis[bis[3,5-bis(trimethylsilyl)phenyl]- (9CI) (CA INDEX NAME)

RN 150971-39-4 CAPLUS
CN Phosphine, (6,6'-dimethoxy[1,1'-biphenyl]-2,2'-diyl)bis[bis[3,5-bis(triethylsilyl)phenyl]-, (R)- (9CI) (CA INDEX NAME)

RN 150971-41-8 CAPLUS
CN Phosphine, (6,6'-dimethoxy[1,1'-biphenyl]-2,2'-diyl)bis[bis[3,5-bis(triethylsilyl)phenyl]-, (S)- (9CI) (CA INDEX NAME)

RN 150971-43-0 CAPLUS '
CN Phosphine, [(1S)-6,6'-dimethoxy[1,1'-biphenyl]-2,2'-diyl]bis[bis(1-methylethyl)- (9CI) (CA INDEX NAME)

RN 150971-45-2 CAPLUS
CN Phosphine, [(1R)-6,6'-dimethoxy[1,1'-biphenyl]-2,2'-diyl]bis[bis(1-methylethyl)- (9CI) (CA INDEX NAME)

RN 150971-47-4 CAPLUS

CN Phosphine, (6,6'-dimethoxy[1,1'-biphenyl]-2,2'-diyl)bis[diethyl- (9CI) (CA INDEX NAME)

RN 150971-49-6 CAPLUS

CN Phosphine, [(1R)-6,6'-dimethoxy[1,1'-biphenyl]-2,2'-diyl]bis[dicyclobutyl-(9CI) (CA INDEX NAME)

RN 150971-51-0 CAPLUS

CN Phosphine, [(1S)-6,6'-dimethoxy[1,1'-biphenyl]-2,2'-diyl]bis[dicyclobutyl-(9CI) (CA INDEX NAME)

RN 150971-53-2 CAPLUS

CN Phosphine, (6,6'-dimethoxy[1,1'-biphenyl]-2,2'-diyl)bis[dicyclopentyl-, (R)- (9CI) (CA INDEX NAME)

RN 150971-55-4 CAPLUS

CN Phosphine, [(1S)-6,6'-dimethoxy[1,1'-biphenyl]-2,2'-diyl]bis[dicyclopentyl-(9CI) (CA INDEX NAME)

RN 150971-57-6 CAPLUS

CN Phosphine, (6,6'-dimethoxy[1,1'-biphenyl]-2,2'-diyl)bis[bis([1,1':3',1''-

terphenyl]-5'-yl)-, (R)- (9CI) (CA INDEX NAME)

PAGE 1-A

PAGE 2-A

150971-59-8 CAPLUS RNPhosphine, (6,6'-dimethoxy[1,1'-biphenyl]-2,2'-diyl)bis[bis[4-(trimethylsilyl)phenyl]-, (R)- (9CI) (CA INDEX NAME) CN

| SiMe3

IT 145209-12-7 145265-39-0

RL: RCT (Reactant); RACT (Reactant or reagent)
 (reaction of, with biphenyl Grignard reagent)

RN 145209-12-7 CAPLUS

CN Phosphonic acid, (6,6'-dimethoxy[1,1'-biphenyl]-2,2'-diyl)bis-, tetraphenyl ester (9CI) (CA INDEX NAME)

RN 145265-39-0 CAPLUS

CN Phosphonic dichloride, [(1R)-6,6'-dimethoxy[1,1'-biphenyl]-2,2'-diyl]bis-(9CI) (CA INDEX NAME)

CAPLUS COPYRIGHT 2007 ACS on STN L3 ANSWER 207 OF 212

1993:671398 CAPLUS ACCESSION NUMBER:

DOCUMENT NUMBER: 119:271398

TITLE: Diphosphine ligands

Foricher, Joseph; Schmid, Rudolf INVENTOR(S):

Hoffmann-La Roche, F., und Co. A.-G., Switz. PATENT ASSIGNEE(S):

SOURCE: PCT Int. Appl., 19 pp.

CODEN: PIXXD2

DOCUMENT TYPE:

Patent German LANGUAGE:

FAMILY ACC. NUM. COUNT: 5

PATENT INFORMATION:

PAT	PATENT NO.				KIND		DATE		APPLICATION NO.						DATE			
WO	9315090			A1	_	19930	805		WO	19	93-	CH25	5					201
	W: JP, RW: AT,	BE,	CH,															
EP	583433			A1		19940	0223		ΕP	19	93-	9020	020			19	930	201
EP	583433			B1		19990)512											
	R: AT,	BE,	CH,	DE,	DK,	ES,	FR,	GB,	ľ	Γ,	LI,	NL						
JP	R: AT, 06506485	.		Т		19940	721		JΡ	19	93-	5128	332			19	930	201
JP	3369561			B2		20030)120											
AT	179981			T		19990)515		ΑT	19	93-	9020	020			19	930	201
AT	179981 179176			${f T}$		19990)515		ΑT	19	93-	9020	021			19	930	201
ES	2131575			Т3		19990	0801		ES	19	93-	9020	021			19	930	201
ES	2131575 2132215 565975			т3		19990	0816		ES	19	93-	9020	020			19	930	201
EP	565975			A2		19931	L020		EΡ	19	93-	105	548			19	930	403
	565975			А3		1993	L103											
EP	565975			B1		19960	1904											
	R: AT, 142191 2091509	BE,	CH,	DE,	DK,	, ES,	FR,	GB,	ľ	Γ,	LI,	NL	•					
AT	142191			${f T}$		19960	915		ΑT	19	93-	105	548			19	930	403
ES	142191 2091509			Т3		19961	L101		ES	19	93-	105	548			19	930	403
JP	06025035	,		Α		19940	0201		JΡ	19	93-	1098	333			19	930	414
	3310381			В2		20020	0805											
US	5430191			Α		19950	0704		US	19	93-	122	506			19	930	927
US	5514805			Α		19960	0507		US	19	94-	225	108			19	940	408
US	5600015			Α		19970	0204		US	19	95-	4450	068			19	950	519
US	5750690			Α		19980)512		US	19	96-	6902	215			19	960	726
PRIORITY	APPLN.	INFO	.:						CH	19	92-	289			Α	19	920	131
									CH	19	92-	1270)		Α	19	920	416
							•		CH	19	92-	1582	2		Α	19	920	518
									CH	19	92-	194	0 2 4 2 0		A	19	920	619
									US	19	93-	1012	20		В1	.19	930	128
									WO	19	93-	CHZ:)		W	13	930	Z U T
									CH	19	93-	729			Α	19	930	311
	•								US	19	93-	445	19		В1	19	930	408
									US	19	93-	572	31		В1	19	930	504

US 1994-330404

B1 19941028

OTHER SOURCE(S):

MARPAT 119:271398

GI

Title compds. I (R = OH, protected OH; R1 = OH, protected OH, lower alkoxy; R2 = lower alkyl, cycloalkyl, aryl; or PR1R2 = 9-phospha-9-fluorenyl), useful as ligands with Group VIII metals for asym. hydrogenation reactions and enantiomer-selective hydrogen displacement reactions in prochiral allylic system, are claimed. Thus, demethylation of (R)-(6,6'-dimethoxybiphenyl-2,2'-diyl)bis(diphenylphosphine) with BBr3 in CH2Cl2 gave a title compound, (R)-(6,6'-dihydroxybiphenyl-2,2'-diyl)bis(diphenylphosphine) (II). Reaction of II with dichlorobis(1,5-cyclooctadiene)dirhodium in PhMe gave a catalyst which was used for asym. hydrogenation of (E)-dehydroliliol.

IT 133545-16-1 133545-17-2

RL: RCT (Reactant); RACT (Reactant or reagent) (demethylation of, with boron tribromide)

RN 133545-16-1 CAPLUS

CN Phosphine, 1,1'-[(1R)-6,6'-dimethoxy[1,1'-biphenyl]-2,2'-diyl]bis[1,1-diphenyl- (CA INDEX NAME)

RN 133545-17-2 CAPLUS

CN Phosphine, 1,1'-[(1S)-6,6'-dimethoxy[1,1'-biphenyl]-2,2'-diyl]bis[1,1-diphenyl- (CA INDEX NAME)

IT 151395-63-0P

RL: SPN (Synthetic preparation); PREP (Preparation) (preparation of)

RN 151395-63-0 CAPLUS

CN Phosphine, [(1R)-6,6'-bis(phenylmethoxy)[1,1'-biphenyl]-2,2'-diyl]bis[diphenyl- (9CI) (CA INDEX NAME)

IT 151395-61-8P 151395-62-9P 151395-64-1P

RL: SPN (Synthetic preparation); PREP (Preparation) (preparation of, as ligand for rhodium or ruthenium catalyzed asym. hydrogenation)

RN 151395-61-8 CAPLUS

CN [1,1'-Biphenyl]-2,2'-diol, 6,6'-bis(diphenylphosphino)-, (1R)- (CA INDEX NAME)

RN 151395-62-9 CAPLUS

CN [1,1'-Biphenyl]-2,2'-diol, 6,6'-bis(diphenylphosphino)-, (1S)- (9CI) (CA INDEX NAME)

RN 151395-64-1 CAPLUS

[1,1'-Biphenyl]-2-ol, 2',6-bis(diphenylphosphino)-6'-(1-methylethoxy)-, CN (R)- (9CI) (CA INDEX NAME)

ANSWER 208 OF 212 CAPLUS COPYRIGHT 2007 ACS on STN

ACCESSION NUMBER: 1993:147774 CAPLUS

DOCUMENT NUMBER: 118:147774

Preparation and resolution of biphenyl-1,1'-TITLE:

diphosphonates

INVENTOR(S): Foricher, Joseph; Heiser, Bernd; Schmid, Rudolf

PATENT ASSIGNEE(S): Hoffmann-La Roche, F., und Co. A.-G., Switz.

SOURCE: PCT Int. Appl., 25 pp.

CODEN: PIXXD2

DOCUMENT TYPE: Patent LANGUAGE: German

FAMILY ACC. NUM. COUNT:

PATENT INFORMATION:

PATENT NO.					KIND		DATE		APPLICATION NO.				DATE		
WO	9216	 535			A1	•	1992	1001	WO	1992-	CH50				19920312
	W:	JP,	US						•						
	R₩:	AT,	BE,	CH,	DE,	DK,	ES,	FR,	GB, GI	R, IT,	LU,	MC,	NL,	SI	£
EP	5303	35			A1		1993	0310	EP	1992-	9052	78			19920312
EP	5303	35			B1		1996	0814							
	R:	AT,	BE,	CH,	DE,	DK,	FR,	GB,	IT, L	I, NL,	SE				
JP	0550	7503			${f T}$		1993	1028	JP	1992-	5059	15			19920312
JP	3204	668			B2		2001	0904							
AT	1412	78			${f T}$		1996	0815	AT	1992-	9052	78			19920312
US	5302	738	•		Α		1994	0412	US	1992-	9498	78			19921113
PRIORIT	Y APP	LN.	INFO	.:					CH	1991-	794		I	4	19910315
									WO	1992-	CH50		7	V	19920312
OTHER S	OURCE	(S):			MARE	PAT	118:	14777	74						

GI

AB Title compds. (I; R = alkyl, alkoxy, protected OH; R1 = alkoxy, PhO, PhCH2O, C1, Br; R2 = alkyl, alkoxy; n = 0-2), were prepared Thus, di-Ph 2-iodo-3-(methoxyphenyl)phosphonate (preparation from 3-bromoanisole given) was heated with activated Cu powder in DMF at 140° to give di-Ph RS-(6,6'-dimethoxybiphenyl-2,2'-diyl)bisphosphonate (RS-II). II was treated with (-)-O,O'-dibenzoyl-L-tartaric acid (III) in CH2Cl2/EtOAc to give (R)-II.III, which in CH2Cl2 was stirred with NaHCO3 in H2O to give (R)-II.

IT 145306-47-4P 145306-48-5P
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT
(Reactant or reagent)

(preparation and decomposition reaction of)

RN 145306-47-4 CAPLUS

CN Butanedioic acid, 2,3-bis(benzoyloxy)-, [R-(R*,R*)]-, compd. with (R)-tetraphenyl (6,6'-dimethoxy[1,1'-biphenyl]-2,2'-diyl)bis[phosphonate] (1:1) (9CI) (CA INDEX NAME)

CM 1

CRN 145265-36-7 CMF C38 H32 O8 P2

CM 2

CRN 2743-38-6 CMF C18 H14 O8

Absolute stereochemistry. Rotation (-).

RN 145306-48-5 CAPLUS

CN Butanedioic acid, 2,3-bis(benzoyloxy)-, [S-(R*,R*)]-, compd. with (S)-tetraphenyl (6,6'-dimethoxy[1,1'-biphenyl]-2,2'-diyl)bis[phosphonate] (1:1) (9CI) (CA INDEX NAME)

CM 1

CRN 145265-37-8 CMF C38 H32 O8 P2

CM 2

CRN 17026-42-5 CMF C18 H14 O8

Absolute stereochemistry. Rotation (+).

IT 133545-23-0P 133577-82-9P 133577-84-1P 133577-88-5P 133577-89-6P 145209-27-4P

145209-28-5P 145209-29-6P 145265-43-6P
145265-44-7P
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
 (preparation and reduction of)
133545-23-0 CAPLUS
Phosphine oxide, (6,6'-dimethoxy[1,1'-biphenyl]-2,2'-diyl)bis[bis(4-methylphenyl)- (9CI) (CA INDEX NAME)

PAGE 1-A

RN

CN

PAGE 2-A

PAGE 3-A

RN 133577-82-9 CAPLUS
CN Phosphine oxide, (6,6'-dimethoxy[1,1'-biphenyl]-2,2'-diyl)bis[diphenyl-, (1R)- (9CI) (CA INDEX NAME)

RN 133577-84-1 CAPLUS
CN Phosphine oxide, [(1S)-6,6'-dimethoxy[1,1'-biphenyl]-2,2'-diyl]bis[diphenyl- (9CI) (CA INDEX NAME)

RN 133577-88-5 CAPLUS
CN Phosphine oxide, (6,6'-dimethoxy[1,1'-biphenyl]-2,2'-diyl)bis[bis(4-methylphenyl)-, (R)- (9CI) (CA INDEX NAME)

RN 133577-89-6 CAPLUS

CN Phosphine oxide, [(1S)-6,6'-dimethoxy[1,1'-biphenyl]-2,2'-diyl]bis[bis(4-methylphenyl)- (9CI) (CA INDEX NAME)

RN 145209-27-4 CAPLUS

CN Phosphine oxide, (6,6'-dimethoxy[1,1'-biphenyl]-2,2'-diyl)bis[bis(4-methoxyphenyl)- (9CI) (CA INDEX NAME)

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RN 145209-28-5 CAPLUS

CN Phosphine oxide, (6,6'-dimethoxy[1,1'-biphenyl]-2,2'-diyl)bis[bis([1,1'-biphenyl]-4-yl)-, (R)- (9CI) (CA INDEX NAME)

RN 145209-29-6 CAPLUS

CN Phosphine oxide, (6,6'-dimethoxy[1,1'-biphenyl]-2,2'-diyl)bis[bis([1,1'-biphenyl]-4-yl)-, (S)- (9CI) (CA INDEX NAME)

RN 145265-43-6 CAPLUS
CN Phosphine oxide, (6,6'-dimethoxy[1,1'-biphenyl]-2,2'-diyl)bis[bis(4-methoxyphenyl)-, (R)- (9CI) (CA INDEX NAME)

RN 145265-44-7 CAPLUS
CN Phosphine oxide, (6,6'-dimethoxy[1,1'-biphenyl]-2,2'-diyl)bis[bis(4-methoxyphenyl)-, (S)- (9CI) (CA INDEX NAME)

IT 145209-12-7P 145209-14-9P 145209-18-3P

RL: SPN (Synthetic preparation); PREP (Preparation) (preparation and resolution of)

RN 145209-12-7 CAPLUS

CN Phosphonic acid, (6,6'-dimethoxy[1,1'-biphenyl]-2,2'-diyl)bis-, tetraphenyl ester (9CI) (CA INDEX NAME)

RN 145209-14-9 CAPLUS

CN Phosphonic acid, (6,6'-dimethoxy[1,1'-biphenyl]-2,2'-diyl)bis-, tetraethyl ester (9CI) (CA INDEX NAME)

RN 145209-18-3 CAPLUS

CN Phosphonic dichloride, (6,6'-dimethoxy[1,1'-biphenyl]-2,2'-diyl)bis- (9CI) (CA INDEX NAME)

RN 133545-17-2 CAPLUS
CN Phosphine, 1,1'-[(1S)-6,6'-dimethoxy[1,1'-biphenyl]-2,2'-diyl]bis[1,1-diphenyl- (CA INDEX NAME)

RN 133545-24-1 CAPLUS

Phosphine, (6,6'-dimethoxy[1,1'-biphenyl]-2,2'-diyl)bis[bis(4-methylphenyl)-, (R)- (9CI) (CA INDEX NAME) CN

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RN

133545-25-2 CAPLUS
Phosphine, [(1S)-6,6'-dimethoxy[1,1'-biphenyl]-2,2'-diyl]bis[bis(4-methylphenyl)- (9CI) (CA INDEX NAME) CN

| Me

RN 133577-94-3 CAPLUS

CN Phosphine, (6,6'-dimethoxy[1,1'-biphenyl]-2,2'-diyl)bis[bis(4-methylphenyl)- (9CI) (CA INDEX NAME)

PAGE 1-A

RN 145209-16-1 CAPLUS

CN Phosphonic acid, [6,6'-bis(methoxymethoxy)[1,1'-biphenyl]-2,2'-diyl]bis-, tetraphenyl ester, (R)- (9CI) (CA INDEX NAME)

RN 145209-17-2 CAPLUS

CN Phosphonic acid, [6,6'-bis(methoxymethoxy)[1,1'-biphenyl]-2,2'-diyl]bis-, tetraphenyl ester, (S)- (9CI) (CA INDEX NAME)

RN 145209-24-1 CAPLUS

CN Phosphine, (6,6'-dimethoxy[1,1'-biphenyl]-2,2'-diyl)bis[bis(4-methoxyphenyl)- (9CI) (CA INDEX NAME)

RN

145209-25-2 CAPLUS
Phosphine, (6,6'-dimethoxy[1,1'-biphenyl]-2,2'-diyl)bis[bis([1,1'-biphenyl]-4-yl)-, (R)- (9CI) (CA INDEX NAME) CN

| Ph

RN 145209-26-3 CAPLUS
CN Phosphine, [(1S)-6,6'-dimethoxy[1,1'-biphenyl]-2,2'-diyl]bis[bis([1,1'-biphenyl]-4-yl)- (9CI) (CA INDEX NAME)

| Ph

RN 145264-54-6 CAPLUS

CN Phosphonic acid, [(1R)-6,6'-dimethoxy[1,1'-biphenyl]-2,2'-diyl]bis-, tetraethyl ester (9CI) (CA INDEX NAME)

RN 145265-36-7 CAPLUS

CN Phosphonic acid, (6,6'-dimethoxy[1,1'-biphenyl]-2,2'-diyl)bis-, tetraphenyl ester, (R)- (9CI) (CA INDEX NAME)

RN 145265-37-8 CAPLUS
CN Phosphonic acid, (6,6'-dimethoxy[1,1'-biphenyl]-2,2'-diyl)bis-, tetraphenyl ester, (S)- (9CI) (CA INDEX NAME)

RN 145265-38-9 CAPLUS
CN Phosphonic acid, [(1S)-6,6'-dimethoxy[1,1'-biphenyl]-2,2'-diyl]bis-, tetraethyl ester (9CI) (CA INDEX NAME)

RN 145265-39-0 CAPLUS
CN Phosphonic dichloride, [(1R)-6,6'-dimethoxy[1,1'-biphenyl]-2,2'-diyl]bis-(9CI) (CA INDEX NAME)

RN 145265-40-3 CAPLUS
CN Phosphonic dichloride, (6,6'-dimethoxy[1,1'-biphenyl]-2,2'-diyl)bis-, (S)-(9CI) (CA INDEX NAME)

RN 145265-41-4 CAPLUS
CN Phosphine, (6,6'-dimethoxy[1,1'-biphenyl]-2,2'-diyl)bis[bis(4-methoxyphenyl)-, (R)- (9CI) (CA INDEX NAME)

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0Me

RN 145265-42-5 CAPLUS

CN Phosphine, [(1S)-6,6'-dimethoxy[1,1'-biphenyl]-2,2'-diyl]bis[bis(4-methoxyphenyl)- (9CI) (CA INDEX NAME)

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OMe

L3 ANSWER 209 OF 212 CAPLUS COPYRIGHT 2007 ACS on STN

ACCESSION NUMBER:

1993:59878 CAPLUS

DOCUMENT NUMBER:

118:59878

TITLE:

Preparation of racemic and optically active

biphenyl-2,2-bisphosphines

INVENTOR(S):

Broger, Emil Albin; Foricher, Joseph; Heiser, Bernd;

Schmid, Rudolf

PATENT ASSIGNEE(S):

Hoffmann-La Roche, F., und Co. A.-G., Switz.

SOURCE: PCT Int. Appl., 34 pp.

CODEN: PIXXD2

DOCUMENT TYPE:

Patent German

LANGUAGE:

German

FAMILY ACC. NUM. COUNT:

PATENT INFORMATION:

PAT	TENT NO.		•	KIND	DATE	APPLICATION NO.		DATE		
WO	9216536			A1	19921001	WO 1992-CH49		19920311		
•	W: JP,									
	RW: AT,	BE,	CH,	DE, DK	, ES, FR,	GB, GR, IT, LU, MC,	NL, S			
EP	530336			A1	19930310	EP 1992-905551		19920311		
EP	530336			В1	19960306					
	R: AT,	BE,	CH,	DE, DK	, FR, GB,	IT, LI, NL, SE				
JP	05507294			T ·	19931021	JP 1992-504836		19920311		
•	3204667			B2	20010904					
AT	135008			Т	19960315	AT 1992-905551		19920311		
US	5274125			Α	19931228	US 1992-949871		19921113		
PRIORITY	Y APPLN.	INFO	. :			CH 1991-805	Α	19910315		
						CH 1992-697	Α	19920305		
						WO 1992-CH49	W	19920311		
OTHER SO	OURCE(S):			MARPAT	118:5987	8				

$$(R^{2})_{n}$$

$$R$$

$$P(R^{1})_{2}$$

$$R$$

$$P(R^{1})_{2}$$

I

GΙ

AB Title compds. (I; R = alkyl, alkoxy, protected OH; R1 = 5 ring atom containing heteroaryl; R2 = alkyl, alkoxy; n = 0-2), were prepared Thus, R-(6,6'-dimethoxybiphenyl-2,2'-diyl)bis(phosphonic acid di-Ph ester) (preparation given) in THF was added to the Grignard reagent from 2-iodofuran in THF and the mixture was stirred 1 h at 40° to give the bis(di-2-furylphosphine oxide), which was refluxed with Cl3SiH and Bu3N in xylene to give, after heating with aqueous NaOH, R-(6,6'-dimethoxybiphenyl-2,2'-diyl)bis(di-2-furylphosphine). I were used in asym. hydrogenation reactions.

IT 145265-36-7P
 RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT
 (Reactant or reagent)

(preparation and Grignard reaction of, with iodofuran)

RN 145265-36-7 CAPLUS

CN Phosphonic acid, (6,6'-dimethoxy[1,1'-biphenyl]-2,2'-diyl)bis-, tetraphenyl ester, (R)- (9CI) (CA INDEX NAME)

(CA INDEX NAME)

RN 145265-40-3 CAPLUS
CN Phosphonic dichloride, (6,6'-dimethoxy[1,1'-biphenyl]-2,2'-diyl)bis-, (S)(9CI) (CA INDEX NAME)

IT 145264-54-6P

RL: SPN (Synthetic preparation); PREP (Preparation)

(preparation and conversion of, bis(phosphinyldichloride) derivative)

RN 145264-54-6 CAPLUS

CN Phosphonic acid, [(1R)-6,6'-dimethoxy[1,1'-biphenyl]-2,2'-diyl]bis-, tetraethyl ester (9CI) (CA INDEX NAME)

IT 145306-47-4P 145306-48-5P

RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)

(preparation and decomposition of)

RN 145306-47-4 CAPLUS

CN Butanedioic acid, 2,3-bis(benzoyloxy)-, [R-(R*,R*)]-, compd. with (R)-tetraphenyl (6,6'-dimethoxy[1,1'-biphenyl]-2,2'-diyl)bis[phosphonate] (1:1) (9CI) (CA INDEX NAME)

CM 1

CRN 145265-36-7 CMF C38 H32 O8 P2

CM 2

CRN 2743-38-6 CMF C18 H14 O8

Absolute stereochemistry. Rotation (-).

RN 145306-48-5 CAPLUS

CN Butanedioic acid, 2,3-bis(benzoyloxy)-, [S-(R*,R*)]-, compd. with (S)-tetraphenyl (6,6'-dimethoxy[1,1'-biphenyl]-2,2'-diyl)bis[phosphonate] (1:1) (9CI) (CA INDEX NAME)

CM 1

CRN 145265-37-8 CMF C38 H32 O8 P2

CM 2

CRN 17026-42-5 CMF C18 H14 O8

Absolute stereochemistry. Rotation (+).

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145214-56-8P 145214-58-0P 145214-60-4P
ΙT
     145214-61-5P 145214-62-6P 145214-63-7P
     145214-64-8P 145214-70-6P 145214-71-7P
     145214-72-8P 145214-74-0P 145214-75-1P
     145214-76-2P 145214-77-3P 145214-78-4P
     145214-79-5P 145264-43-3P 145264-44-4P
     145264-45-5P 145264-53-5P 145264-55-7P
     145264-56-8P 145264-57-9P 145264-58-0P
     145264-61-5P 145264-63-7P
     RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT
     (Reactant or reagent)
         (preparation and reduction of)
RN
     145214-56-8 CAPLUS
' CN
     Phosphine oxide, (6,6'-dimethoxy[1,1'-biphenyl]-2,2'-diyl)bis[di-2-furanyl-
     , (R) - (9CI) (CA INDEX NAME)
```

RN 145214-58-0 CAPLUS
CN Phosphine oxide, (6,6'-dimethoxy[1,1'-biphenyl]-2,2'-diyl)bis[di-2-furanyl-, (S)- (9CI) (CA INDEX NAME)

RN 145214-60-4 CAPLUS

CN Phosphine oxide, (6,6'-dimethoxy[1,1'-biphenyl]-2,2'-diyl)bis[di-2-thienyl-, (R)- (9CI) (CA INDEX NAME)

RN 145214-61-5 CAPLUS

CN Phosphine, (6,6'-dimethoxy[1,1'-biphenyl]-2,2'-diyl)bis[di-2-thienyl-, (R)- (9CI) (CA INDEX NAME)

RN 145214-62-6 CAPLUS

CN Phosphine oxide, (6,6'-dimethoxy[1,1'-biphenyl]-2,2'-diyl)bis[di-2-thienyl-, (S) - (9CI) (CA INDEX NAME)

RN

145214-63-7 CAPLUS Phosphine, 1,1'-[(1S)-6,6'-dimethoxy[1,1'-biphenyl]-2,2'-diyl]bis[di-2-CN thienyl- (CA INDEX NAME)

RN 145214-64-8 CAPLUS

CN Phosphine oxide, (6,6'-dimethoxy[1,1'-biphenyl]-2,2'-diyl)bis[di-3-furanyl-(9CI) (CA INDEX NAME)

RN 145214-70-6 CAPLUS

CN Phosphine oxide, (6,6'-dimethoxy[1,1'-biphenyl]-2,2'-diyl)bis[bis(benzo[b]thien-2-yl)-, (R)- (9CI) (CA INDEX NAME)

RN 145214-71-7 CAPLUS

CN Phosphine oxide, (6,6'-dimethoxy[1,1'-biphenyl]-2,2'-diyl)bis[bis(benzo[b]thien-2-yl)-, (S)- (9CI) (CA INDEX NAME)

RN 145214-72-8 CAPLUS

CN Phosphine, (6,6'-dimethoxy[1,1'-biphenyl]-2,2'-diyl)bis[bis(benzo[b]thien-2-yl)-, (R)- (9CI) (CA INDEX NAME)

RN 145214-74-0 CAPLUS

CN Phosphine oxide, (6,6'-dimethoxy[1,1'-biphenyl]-2,2'-diyl)bis[bis(2-benzofuranyl)-, (R)- (9CI) (CA INDEX NAME)

RN 145214-75-1 CAPLUS

CN Phosphine oxide, (6,6'-dimethoxy[1,1'-biphenyl]-2,2'-diyl)bis[bis(2-benzofuranyl)-, (S)- (9CI) (CA INDEX NAME)

RN 145214-76-2 CAPLUS

CN Phosphine oxide, (6,6'-dimethoxy[1,1'-biphenyl]-2,2'-diyl)bis[bis(5-methyl-2-furanyl)- (9CI) (CA INDEX NAME)

RN 145214-77-3 CAPLUS
CN 1H-Pyrrole, 2,2',2'',2'''-[(6,6'-dimethoxy[1,1'-biphenyl]-2,2'-diyl)diphosphinylidyne]tetrakis[1-methyl- (9CI) (CA INDEX NAME)

RN 145214-78-4 CAPLUS
CN Phosphine, (6,6'-dimethoxy[1,1'-biphenyl]-2,2'-diyl)bis[bis(2-benzofuranyl)-, (R)- (9CI) (CA INDEX NAME)

RN 145214-79-5 CAPLUS
CN Phosphine, (6,6'-dimethoxy[1,1'-biphenyl]-2,2'-diyl)bis[bis(2-benzofuranyl)-, (S)- (9CI) (CA INDEX NAME)

RN 145264-43-3 CAPLUS
CN Phosphine oxide, (6,6'-dimethoxy[1,1'-biphenyl]-2,2'-diyl)bis[di-3-furanyl-, (R)- (9CI) (CA INDEX NAME)

RN 145264-44-4 CAPLUS
CN Phosphine oxide, (6,6'-dimethoxy[1,1'-biphenyl]-2,2'-diyl)bis[di-3-furanyl, (S)- (9CI) (CA INDEX NAME)

RN 145264-45-5 CAPLUS
CN Phosphine, (6,6'-dimethoxy[1,1'-biphenyl]-2,2'-diyl)bis[di-3-furanyl-,
(S)- (9CI) (CA INDEX NAME)

RN 145264-53-5 CAPLUS
CN Phosphine oxide, (6,6'-dimethoxy[1,1'-biphenyl]-2,2'-diyl)bis[bis(benzo[b]thien-2-yl)- (9CI) (CA INDEX NAME)

RN 145264-55-7 CAPLUS

CN Phosphine oxide, (6,6'-dimethoxy[1,1'-biphenyl]-2,2'-diyl)bis[bis(2-benzofuranyl)- (9CI) (CA INDEX NAME)

RN 145264-56-8 CAPLUS

CN Phosphine oxide, (6,6'-dimethoxy[1,1'-biphenyl]-2,2'-diyl)bis[bis(5-methyl-2-furanyl)-, (R)- (9CI) (CA INDEX NAME)

RN 145264-57-9 CAPLUS

CN Phosphine oxide, (6,6'-dimethoxy[1,1'-biphenyl]-2,2'-diyl)bis[bis(5-methyl-2-furanyl)-, (S)- (9CI) (CA INDEX NAME)

RN 145264-58-0 CAPLUS

CN 1H-Pyrrole, 2,2',2'',2'''-[(6,6'-dimethoxy[1,1'-biphenyl]-2,2'-diyl)diphosphinylidyne]tetrakis[1-methyl-, (R)- (9CI) (CA INDEX NAME)

145264-61-5 CAPLUS RN

CN Phosphine, [(1R)-6,6'-dimethoxy[1,1'-biphenyl]-2,2'-diyl]bis[di-3-furanyl-(9CI) (CA INDEX NAME)

RN

145264-63-7 CAPLUS
Phosphine, (6,6'-dimethoxy[1,1'-biphenyl]-2,2'-diyl)bis[bis(benzo[b]thien-2-yl)- (9CI) (CA INDEX NAME) CN

IT 145209-12-7P

RL: SPN (Synthetic preparation); PREP (Preparation) (preparation and resolution of)

RN 145209-12-7 CAPLUS

CN Phosphonic acid, (6,6'-dimethoxy[1,1'-biphenyl]-2,2'-diyl)bis-, tetraphenyl ester (9CI) (CA INDEX NAME)

IT 145214-57-9P 145214-59-1P 145214-65-9P

145214-73-9P 145214-80-8P 145214-81-9P

145264-59-1P 145264-60-4P

RL: SPN (Synthetic preparation); PREP (Preparation)

(preparation of)

RN 145214-57-9 CAPLUS

CN Phosphine, [(1R)-6,6'-dimethoxy[1,1'-biphenyl]-2,2'-diyl]bis[di-2-furanyl-(9CI) (CA INDEX NAME)

RN 145214-59-1 CAPLUS

CN Phosphine, [(1S)-6,6'-dimethoxy[1,1'-biphenyl]-2,2'-diyl]bis[di-2-furanyl-(9CI) (CA INDEX NAME)

RN 145214-65-9 CAPLUS

CN Phosphine, (6,6'-dimethoxy[1,1'-biphenyl]-2,2'-diyl)bis[di-3-furanyl-(9CI) (CA INDEX NAME)

RN 145214-73-9 CAPLUS

CN Phosphine, (6,6'-dimethoxy[1,1'-biphenyl]-2,2'-diyl)bis[bis(benzo[b]thien-2-yl)-, (S)- (9CI) (CA INDEX NAME)

145214-80-8 CAPLUS RN

Phosphine, (6,6'-dimethoxy[1,1'-biphenyl]-2,2'-diyl)bis[bis(5-methyl-2-furanyl)- (9CI) (CA INDEX NAME) CN

RN

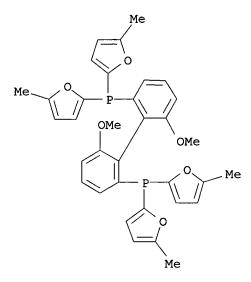
145214-81-9 CAPLUS
1H-Pyrrole, 2,2',2'',2'''-[(6,6'-dimethoxy[1,1'-biphenyl]-2,2'-diyl)diphosphinidyne]tetrakis[1-methyl- (9CI) (CA INDEX NAME) , CN

145264-59-1 CAPLUS RN

Phosphine, (6,6'-dimethoxy[1,1'-biphenyl]-2,2'-diyl)bis[bis(5-methyl-2-furanyl)-, (R)- (9CI) (CA INDEX NAME) CN

RN

145264-60-4 CAPLUS
Phosphine, (6,6'-dimethoxy[1,1'-biphenyl]-2,2'-diyl)bis[bis(5-methyl-2-furanyl)-, (S)- (9CI) (CA INDEX NAME) CN



ANSWER 210 OF 212 CAPLUS COPYRIGHT 2007 ACS on STN

ACCESSION NUMBER:

1991:463305 CAPLUS

DOCUMENT NUMBER:

115:63305

TITLE:

New efficient methods for the synthesis and in-situ

preparation of ruthenium(II) complexes of

atropoisomeric diphosphines and their application in

asymmetric catalytic hydrogenations

AUTHOR(S):

Heiser, Bernd; Broger, Emil A.; Crameri, Yvo

CORPORATE SOURCE:

Cent. Res. Units, F. Hoffmann-La Roche Ltd., Basel,

CH-4002, Switz.

SOURCE:

Tetrahedron: Asymmetry (1991), 2(1), 51-62

CODEN: TASYE3; ISSN: 0957-4166

DOCUMENT TYPE:

Journal LANGUAGE: English

A new synthetically useful method for the synthesis of (P-P)Ru(O2CR)2 [R = CF3 and CH3; P-P = 6.6'-dimethyl- and 6.6'-dimethoxybiphenyl(2,2'diyl)bis(diphenylphosphine) and 1,1'-binaphthyl-2,2'divlbis (diphenylphosphine and -di-p-tolylphosphine)] is presented, which uses the easily accessible complex (COD) $2Ru2(\mu-O2CCF3)4$ as starting material. This complex as well as (COD) $Ru(\eta 2-OAc)$ 2 and (COD) 2Ru2Cl4(NCCH3) are suitable precursor complexes for the in-situ preparation of Ru(II) dicarboxylato and dichloro complexes of atropisomeric diphosphines, resp. The high efficacy of the preformed and in-situ generated Ru complexes as precatalysts is demonstrated in asym. hydrogenations of allylic alcs., enamides, and a β -keto ester.

IT 133545-16-1

RL: RCT (Reactant); RACT (Reactant or reagent)

(asym. hydrogenation catalysts containing, for keto esters)

RN 133545-16-1 CAPLUS

Phosphine, 1,1'-[(1R)-6,6'-dimethoxy[1,1'-biphenyl]-2,2'-diyl]bis[1,1-CN diphenyl- (CA INDEX NAME)

L3 ANSWER 211 OF 212 CAPLUS COPYRIGHT 2007 ACS on STN

ACCESSION NUMBER: 1991:429462 CAPLUS

DOCUMENT NUMBER: 115:29462

TITLE: Axially dissymmetric diphosphines in the biphenyl

series: synthesis of (6,6'-dimethoxybiphenyl-2,2'-diyl)bis(diphenylphosphine) ('MeO-BIPHEP') and analogs via an ortho-lithiation/iodination Ullmann-reaction

approach

AUTHOR(S): Schmid, Rudolf; Foricher, Joseph; Cereghetti, Marco;

Schoenholzer, Peter

CORPORATE SOURCE: Zent. Forschungseinheiten, F. Hoffmann-La Roche A.-G.,

Basel, CH-4002, Switz.

SOURCE: Helvetica Chimica Acta (1991), 74(2), 370-89

CODEN: HCACAV; ISSN: 0018-019X

DOCUMENT TYPE: Journal LANGUAGE: English

OTHER SOURCE(S): CASREACT 115:29462

The new axially dissym. diphosphines (R) - and (S) - (6,6'-dimethoxybiphenyl-2,2'-diyl)bis(diphenylphosphine) [(R) - and (S)-I] and their analogs have been synthesized in enantiomerically pure form by a synthetic scheme which employs, as key steps, an ortho-lithiation/iodination reaction and a subsequent Ullmann reaction of the resulting iodides. The Ullmann reaction constitutes a new and efficient route to 2,2'-bis(phosphinoyl)-substituted biphenyl systems. Absolute configurations were established for (R)-I by x-ray anal. of the derived Pd complex. I proved to be as efficient as the previously described diphosphine (6,6'-dimethylbiphenyl-2,2'-diyl)bis(diphenylphosphine) in enantioselective isomerizations and hydrogenations.

IT 133577-82-9P 133577-84-1P 133577-86-3P

133577-87-4P

RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)

(preparation and reduction of)

RN 133577-82-9 CAPLUS

CN Phosphine oxide, (6,6'-dimethoxy[1,1'-biphenyl]-2,2'-diyl)bis[diphenyl-, (1R)- (9CI) (CA INDEX NAME)

RN 133577-84-1 CAPLUS

CN Phosphine oxide, [(1S)-6,6'-dimethoxy[1,1'-biphenyl]-2,2'-diyl]bis[diphenyl- (9CI) (CA INDEX NAME)

RN 133577-86-3 CAPLUS

CN Phosphine oxide, [(1S)-5,5',6,6'-tetramethoxy[1,1'-biphenyl]-2,2'-diyl]bis[diphenyl- (9CI) (CA INDEX NAME)

RN 133577-87-4 CAPLUS

CN Phosphine oxide, [(1R)-5,5',6,6'-tetramethoxy[1,1'-biphenyl]-2,2'-diyl]bis[diphenyl- (9CI) (CA INDEX NAME)

IT 133545-15-0P 133545-18-3P

RL: SPN (Synthetic preparation); PREP (Preparation)

(preparation and resolution of)

RN 133545-15-0 CAPLUS

CN Phosphine oxide, (6,6'-dimethoxy[1,1'-biphenyl]-2,2'-diyl)bis[diphenyl-(9CI) (CA INDEX NAME)

RN 133545-18-3 CAPLUS

CN Phosphine oxide, (5,5',6,6'-tetramethoxy[1,1'-biphenyl]-2,2'-diyl)bis[diphenyl- (9CI) (CA INDEX NAME)

IT 133545-16-1P 133545-17-2P 133545-19-4P

133545-20-7P 133577-83-0P 133577-85-2P

133577-92-1P 133577-93-2P 133644-94-7P

134435-30-6P 134435-31-7P

RL: SPN (Synthetic preparation); PREP (Preparation)

(preparation of)

RN 133545-16-1 CAPLUS

CN Phosphine, 1,1'-[(1R)-6,6'-dimethoxy[1,1'-biphenyl]-2,2'-diyl]bis[1,1-diphenyl- (CA INDEX NAME)

RN 133545-17-2 CAPLUS
CN Phosphine, 1,1'-[(1S)-6,6'-dimethoxy[1,1'-biphenyl]-2,2'-diyl]bis[1,1-diphenyl- (CA INDEX NAME)

RN 133545-19-4 CAPLUS
CN Phosphine, [(1R)-5,5',6,6'-tetramethoxy[1,1'-biphenyl]-2,2'-diyl]bis[diphenyl- (9CI) (CA INDEX NAME)

RN 133545-20-7 CAPLUS

CN Phosphine, [(1S)-5,5',6,6'-tetramethoxy[1,1'-biphenyl]-2,2'-diyl]bis[diphenyl- (9CI) (CA INDEX NAME)

RN 133577-83-0 CAPLUS
CN Butanedioic acid, 2,3-bis(benzoyloxy)-, [R-(R*,R*)]-, compd. with (R)-(6,6'-dimethoxy[1,1'-biphenyl]-2,2'-diyl)bis[diphenylphosphine oxide] (1:1) (9CI) (CA INDEX NAME)

CM 1

CRN 133577-82-9 CMF C38 H32 O4 P2

CM 2

CRN 2743-38-6 CMF C18 H14 O8

Absolute stereochemistry. Rotation (-).

RN 133577-85-2 CAPLUS

CN Butanedioic acid, 2,3-bis(benzoyloxy)-, [S-(R*,R*)]-, compd. with .
(S)-(6,6'-dimethoxy[1,1'-biphenyl]-2,2'-diyl)bis[diphenylphosphine oxide]
(1:1) (9CI) (CA INDEX NAME)

CM 1

CRN 133577-84-1 CMF C38 H32 O4 P2

CM 2

CRN 17026-42-5 CMF C18 H14 O8

Absolute stereochemistry. Rotation (+).

RN 133577-92-1 CAPLUS

CN Phosphine, (6,6'-dimethoxy[1,1'-biphenyl]-2,2'-diyl)bis[diphenyl- (9CI)

(CA INDEX NAME)

RN 133577-93-2 CAPLUS
CN Phosphine, (5,5',6,6'-tetramethoxy[1,1'-biphenyl]-2,2'-diyl)bis[diphenyl-(9CI) (CA INDEX NAME)

RN 133644-94-7 CAPLUS
CN Butanedioic acid, 2,3-bis(benzoyloxy)-, [R-(R*,R*)]-, compd. with
(S)-(5,5',6,6'-tetramethoxy[1,1'-biphenyl]-2,2'-diyl)bis[diphenylphosphine oxide] (1:1) (9CI) (CA INDEX NAME)

CM 1

CRN 133577-86-3 CMF C40 H36 O6 P2

CM 2

CRN 2743-38-6 CMF C18 H14 O8

Absolute stereochemistry. Rotation (-).

RN 134435-30-6 CAPLUS

CN Butanedioic acid, 2,3-bis(benzoyloxy)-, [R-(R*,R*)]-, compd. with (5,5',6,6'-tetramethoxy[1,1'-biphenyl]-2,2'-diyl)bis[diphenylphosphine oxide] (1:1) (9CI) (CA INDEX NAME)

CM 1

CRN 133545-18-3 CMF C40 H36 O6 P2

CM 2

CRN 2743-38-6 CMF C18 H14 O8

Absolute stereochemistry. Rotation (-).

RN 134435-31-7 CAPLUS

CN Butanedioic acid, 2,3-bis(benzoyloxy)-, [S-(R*,R*)]-, compd. with (R)-(5,5',6,6'-tetramethoxy[1,1'-biphenyl]-2,2'-diyl)bis[diphenylphosphine oxide] (1:1) (9CI) (CA INDEX NAME)

CM 1

CRN 133577-87-4 CMF C40 H36 O6 P2

CM 2

CRN 17026-42-5 CMF C18 H14 O8

Absolute stereochemistry. Rotation (+).

L3 ANSWER 212 OF 212 CAPLUS COPYRIGHT 2007 ACS on STN

ACCESSION NUMBER: 1991:247526 CAPLUS

DOCUMENT NUMBER: 114:247526

TITLE: Preparation of chiral biphenyldiylbis(diphenylphosphin

e) derivatives and catalysts containing them

INVENTOR(S): Cereghetti, Marco Dr; Foricher, Joseph; Heiser, Bernd

Dr; Schmid, Rudolf Dr

PATENT ASSIGNEE(S): Hoffmann-La Roche, F., und Co. A.-G., Switz.

SOURCE: Eur. Pat. Appl., 16 pp.

CODEN: EPXXDW

DOCUMENT TYPE: Patent LANGUAGE: German

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
EP 398132 EP 398132	A2 A3	19901122 19910724	EP 1990-108686	19900509
EP 398132 R: AT, BE, CH,	B1 DE, DK	19950920 , FR, GB, IT	, LI, NL	
AT 128140 JP 03005492	T A	19951015 19910111	AT 1990-108686 JP 1990-128108	19900509 19900517
JP 2940626	B2	19990825		
US 5488172 PRIORITY APPLN. INFO.:	Α	19960130	US 1994-294895 CH 1989-1905 .	19940823 A 19890518
			CH 1990-880 US 1990-521498	A 19900316 B1 19900510
			US 1990-321498 US 1992-884628	B1 19900510 B1 19920515
OTHER SOURCE(S):	MARPAT	114:247526	US 1993-152932	B1 19931115

For diagram(s), see printed CA Issue. GΙ

AB The title compds. (I; R1 = alkyl; R2,R3 = H, alkoxy), were prepared for use as catalysts in enantioselective reactions (hydrogenations, rearrangements). Thus, (2-iodo-3-methoxyphenyl)diphenylphosphine oxide was dimerized using iodine-activated Cu in DMF to give 90.7% RS-(6,6'-dimethoxybiphenyl-2,2'-diyl)bis(diphenylphosphine oxide). latter was resolved using D- or L-dibenzoyltartaric acid and the R-enantiomer in Bu3N/xylene/HSiCl3 at 0° was treated with aqueous NaOH to give 97.3% R-II. Geraniol was hydrogenated to S-citronellol in 98.9% e.e. using Ru(R-II)(CF3CO2)2 catalyst and 60 bar H in MeOH at 20°.

133577-83-0P 133577-85-2P 133644-94-7P IT

133644-95-8P 133644-96-9P

RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)

(preparation and decomposition of)

133577-83-0 CAPLUS RN

CN Butanedioic acid, 2,3-bis(benzoyloxy)-, [R-(R*,R*)]-, compd. with (R)-(6,6'-dimethoxy[1,1'-biphenyl]-2,2'-diyl)bis[diphenylphosphine oxide] (1:1) (9CI) (CA INDEX NAME)

CM 1

CRN 133577-82-9 C38 H32 O4 P2 CMF

CM

2743-38-6 CRN CMF C18 H14 O8

Absolute stereochemistry. Rotation (-).

RN 133577-85-2 CAPLUS
CN Butanedioic acid, 2,3-bis(benzoyloxy)-, [Ś-(R*,R*)]-, compd. with
(S)-(6,6'-dimethoxy[1,1'-biphenyl]-2,2'-diyl)bis[diphenylphosphine oxide]
(1:1) (9CI) (CA INDEX NAME)

CM 1

CRN 133577-84-1 CMF C38 H32 O4 P2

CM 2

CRN 17026-42-5 CMF C18 H14 O8

Absolute stereochemistry. Rotation (+).

RN 133644-94-7 CAPLUS

CN Butanedioic acid, 2,3-bis(benzoyloxy)-, [R-(R*,R*)]-, compd. with (S)-(5,5',6,6'-tetramethoxy[1,1'-biphenyl]-2,2'-diyl)bis[diphenylphosphine oxide] (1:1) (9CI) (CA INDEX NAME)

CM 1

CRN 133577-86-3 CMF C40 H36 O6 P2

CM 2

CRN 2743-38-6 CMF C18 H14 O8

Absolute stereochemistry. Rotation (-).

RN 133644-95-8 CAPLUS

CN Butanedioic acid, 2,3-bis[(4-methylbenzoyl)oxy]-, [R-(R*,R*)]-, compd. with (R)-(6,6'-dimethoxy[1,1'-biphenyl]-2,2'-diyl)bis[bis(4-methylphenyl)phosphine oxide] (1:1) (9CI) (CA INDEX NAME)

CM 1

CRN 133577-88-5 CMF C42 H40 O4 P2

CM 2

CRN 32634-66-5 CMF C20 H18 O8

Absolute stereochemistry. Rotation (-).

RN 133644-96-9 CAPLUS

CN Butanedioic acid, 2,3-bis[(4-methylbenzoyl)oxy]-, [R-(R*,R*)]-, compd. with (S)-(6,6'-dimethoxy[1,1'-biphenyl]-2,2'-diyl)bis[bis(4-methylphenyl)phosphine oxide] (1:1) (9CI) (CA INDEX NAME)

CM 1

CRN 133577-89-6 CMF C42 H40 O4 P2

CM 2

CRN 32634-66-5 CMF C20 H18 O8

Absolute stereochemistry. Rotation (-).

IT 133545-15-0P 133545-18-3P

RL: SPN (Synthetic preparation); PREP (Preparation) (preparation and reduction and resolution of)

RN 133545-15-0 CAPLUS

CN Phosphine oxide, (6,6'-dimethoxy[1,1'-biphenyl]-2,2'-diyl)bis[diphenyl-(9CI) (CA INDEX NAME)

RN 133545-18-3 CAPLUS

CN Phosphine oxide, (5,5',6,6'-tetramethoxy[1,1'-biphenyl]-2,2'-

RN 133577-86-3 CAPLUS
CN Phosphine oxide, [(1S)-5,5',6,6'-tetramethoxy[1,1'-biphenyl]-2,2'-diyl]bis[diphenyl- (9CI) (CA INDEX NAME)

RN 133577-87-4 CAPLUS
CN Phosphine oxide, [(1R)-5,5',6,6'-tetramethoxy[1,1'-biphenyl]-2,2'-diyl]bis[diphenyl- (9CI) (CA INDEX NAME)

RN 133577-88-5 CAPLUS

CN Phosphine oxide, (6,6'-dimethoxy[1,1'-biphenyl]-2,2'-diyl)bis[bis(4-methylphenyl)-, (R)- (9CI) (CA INDEX NAME)

RN 133577-89-6 CAPLUS

CN Phosphine oxide, [(1S)-6,6'-dimethoxy[1,1'-biphenyl]-2,2'-diyl]bis[bis(4-methylphenyl)- (9CI) (CA INDEX NAME)

IT 133545-23-0P

RL: SPN (Synthetic preparation); PREP (Preparation) (preparation and resolution of)

RN 133545-23-0 CAPLUS

CN Phosphine oxide, (6,6'-dimethoxy[1,1'-biphenyl]-2,2'-diyl)bis[bis(4-methylphenyl)- (9CI) (CA INDEX NAME)

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RN 133577-92-1 CAPLUS

CN Phosphine, (6,6'-dimethoxy[1,1'-biphenyl]-2,2'-diyl)bis[diphenyl- (9CI) (CA INDEX NAME)

RN 133577-93-2 CAPLUS

CN Phosphine, (5,5',6,6'-tetramethoxy[1,1'-biphenyl]-2,2'-diyl)bis[diphenyl-(9CI) (CA INDEX NAME)

RN 133577-94-3 CAPLUS

CN Phosphine, (6,6'-dimethoxy[1,1'-biphenyl]-2,2'-diyl)bis[bis(4-methylphenyl)- (9CI) (CA INDEX NAME)

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IT 133545-16-1P 133545-17-2P 133545-19-4P

133545-20-7P 133545-24-1P 133545-25-2P

RL: SPN (Synthetic preparation); PREP (Preparation) (preparation of, for use in asym. reaction catalysts)

RN 133545-16-1 CAPLUS

CN Phosphine, 1,1'-[(1R)-6,6'-dimethoxy[1,1'-biphenyl]-2,2'-diyl]bis[1,1-diphenyl- (CA INDEX NAME)

RN 133545-17-2 CAPLUS

CN Phosphine, 1,1'-[(1S)-6,6'-dimethoxy[1,1'-biphenyl]-2,2'-diyl]bis[1,1-diphenyl- (CA INDEX NAME)

RN 133545-19-4 CAPLUS

CN Phosphine, [(1R)-5,5',6,6'-tetramethoxy[1,1'-biphenyl]-2,2'-diyl]bis[diphenyl- (9CI) (CA INDEX NAME)

RN 133545-20-7 CAPLUS

CN Phosphine, [(1S)-5,5',6,6'-tetramethoxy[1,1'-biphenyl]-2,2'-diyl]bis[diphenyl- (9CI) (CA INDEX NAME)

RN 133545-24-1 CAPLUS

CN Phosphine, (6,6'-dimethoxy[1,1'-biphenyl]-2,2'-diyl)bis[bis(4-methylphenyl)-, (R)- (9CI) (CA INDEX NAME)

PAGE 1-A

RN 133545-25-2 CAPLUS

CN Phosphine, [(1S)-6,6'-dimethoxy[1,1'-biphenyl]-2,2'-diyl]bis[bis(4-methylphenyl)- (9CI) (CA INDEX NAME)

PAGE 1-A

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| Me

IT 133545-31-0

RL: RCT (Reactant); RACT (Reactant or reagent)
 (reduction of)

RN 133545-31-0 CAPLUS

CN Phosphine oxide, (5,5',6,6'-tetramethoxy[1,1'-biphenyl]-2,2'-diyl)bis[bis(4-methylphenyl)- (9CI) (CA INDEX NAME)

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